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Schematic/Electrical Parts

Coeld and Coelds

Dryer Loading

Elevating Conveyor

Read the separate safety manual before installing, operating, or servicing

PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063-0400, U.S.A.

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MECOELD1AE/13436A

COMPONENT PARTS LIST

WCG1CLPL/99372N

COMPONENT NUMBER	FUNCTION OF THIS COMPONENT	WHERE TO FIND THIS COMPONENT	MILNOR P/N	DESCRIPTION	LOCATION
CD	**>>RELAY-TIME DELAY**				
CDD2	DELAY-DISC END PHOTOEYE BLOCKED	WCG1CLSB	09CF002024	TDR F2S 2PDT 11PIN 24V50/60C	LOW VOLT BOX
CDD1	DELAY-PHOTOEYE CLEAR	WCG1CLSC	09CF016024	TDR F16S 2PDT 11PIN 24V50/60C	LOW VOLT BOX
CL	**>>RELAY-LATCH**				
CLB	LATCH-COELD LOADING	WCG1CLSB	09CL2C-C24	RELAY-LATCH DPDT 24V 2-COIL	LOW VOLT BOX
CLB	LATCH-COELD LOADING	WCG1CLSC	09CL2C-C24	RELAY-LATCH DPDT 24V 2-COIL	LOW VOLT BOX
CLC	LATCH-COELD LOADED	WCG1CLSB	09CL2C-C24	RELAY-LATCH DPDT 24V 2-COIL	LOW VOLT BOX
CLC	LATCH-COELD LOADED	WCG1CLSC	09CL2C-C24	RELAY-LATCH DPDT 24V 2-COIL	LOW VOLT BOX
CR	**>>RELAY-CONTROL**				
CRAM	RELAY-MANUAL DESIRED	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRAMA	RELAY=MANUAL DESIRED	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRB	RELAY-COELD LOADING	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRBF	RELAY-RUN BELT FORWARD	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRBR	RELAY-RUN BELT REVERSE	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRD	RELAY-DISCHARGE END	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRDA	RELAY-DISCHARGE END	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRLH	RELAY-COELD AT LOAD HEIGHT	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRLL	RELAY-LOAD END PHOTOEYE BLOCKED	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRS+	RELAY-3-WIRE	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRDH	RELAY-COELD AT DISCHARGE HEIGHT	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRDN	RELAY-COELD DOWN	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRDNS	RELAY-COELD DOWN	WCG1CLSB	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRFE	RELAY-COELD FULLY EXTENDED	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRFR	RELAY-COELD FULLY RETRACTED	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRLDX	RELAY-DRYER LOAD DOOR EOEN	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CRUP	RELAY-COELD UP	WCG1CLSC	09C01DDD24	RELAY 3PDT DIFGOLD 11PIN 24V	LOW VOLT BOX
CS	**>>CONTACTORS**				
CSB	CONTACTOR-FORWARD/REVERSE BELT	WCG1CLSE	09MR04B337	12A 3P REV+2N/C 120V5/6 IEC	HIGH VOLT BX
CSX	CONTACTOR-UP/DOWN BELT	WCG1CLSE	09MR04B337	12A 3P REV+2N/C 120V5/6 IEC	HIGH VOLT BX
CSB	CONTACTOR-RUN BELT FORWARD+REV	WCG1CLSA	09MR04B337	12A 3P REV+2N/C 120V5/6 IEC	HIGH VOLT BX
CSX	CONTACTOR-UP/DOWN BELT	WCG1CLSA	09MR04B337	12A 3P REV+2N/C 120V5/6 IEC	HIGH VOLT BX
CP	**>>PHOTOEYE**				
CPLD	PHOTOEYE-LOAD END	WCG1CLSB	09RE004	SENSOR DARK OPERATE AC N/O-OUT	END OF BELT

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COMPONENT PARTS LIST

COMPONENT NUMBER	FUNCTION OF THIS COMPONENT	WHERE TO FIND THIS COMPONENT	MILNOR P/N	DESCRIPTION	LOCATION
CPRD	PHOTOEYE-DISCHARGE END	WCG1CLSB	09RE004	SENSOR DARK OPERATE AC N/O-OUT	END OF BELT
EB	**>>BUZZER-LIGHT**				
EBSG	BUZZER-OPERATOR SIGNAL	WCG1CLSA	09H015	BUZZ.115V W/6-32 CTR+6"LEADS	HIGHT VOLT BX
EF	**>>FUSES**				
EF24	FUSE-24VOLT CONTROL CIRCUIT	WCG1CLSA	09FF006AMA	XFMR 120-240,110-220/24V 150VA	HIGH VOLT BX
EF37	FUSE-120VOLT CONTROL CIRCUIT	WCG1CLSA	09FF004AHG	XFMR 200-240 PRI/120SEC 250VA	HIGH VOLT BX
EFL2H	FUSE-PRIMARY GREATER THAN 415VAC	W6DR4L1D	09FF003AWN	FUSE #KTK 3A600V=HPS HOLDER	AUTOLINT BOX
EL	**>>LIGHT-PILOT**				
ELD	LIGHT-BELT LOADED	WCG1CLSB	09J060A24	LAMP 1/2" AMB IDI #1090QC3-28V	SWITCH PANEL
ELS+	LIGHT-3-WIRE ON	WCG1CLSB	09J060G24	LAMP 1/2" GRN 28V IDI#1090QC5	SWITCH PANEL
ELSG	LIGHT-OPERATOR SIGNAL	WCG1CLSA	09J060WH37	LAMP 1/2" WHITE 120V TAB	SWITCH PANEL
EM	**>>EMERGENCY STOP SWITCH**				
EMSR1	SWITCH-EMERGENCY STOP LEFT	WCG1CLSA	09N505	SW ASSY EMER STOP	SIDE OF COELD
EMSR2	SWITCH-EMERGENCY STOP RIGHT	WCG1CLSA	09N505	SW ASSY EMER STOP	SIDE OF COELD
ET	**>>OVERLOAD**				
ETB	OVERLOAD-FORWARD/REVERSE BELT	WCG1CLSE	09F025SA	0L RELAY 3P SZ1 SQD #9065-SEO5	HIGH VOLT BX
ETHT	OVERLOAD-UP/DOWN BELT	WCG1CLSE	09F025SA	0L RELAY 3P SZ1 SQD #9065-SEO5	HIGH VOLT BX
EX	**>>TRANSFORMER**				
EX24	TRANSFORMER-120V TO 24VAC	WCG1CLSF	09U027AB24	XFMR 120-240,110-220/24V 150VA	HIGH VOLT BX
EX37-1	TRANSFORMER-200-240V TO 120VAC	WCG1CLSF	09U249AA37	XFMR 200-240 PRI/120SEC 250VA	HIGH VOLT BX
EX37-2	TRANSFORMER-380-480V TO 120VAC	WCG1CLSF	09U200AAB	XFMR 380-480V/240-120V 250VA	HIGH VOLT BX
EX37-3	TRANSFORMER-380-480V TO 120VAC	WCG1CLSF	09U251AB37	XFMR 600VPRI/120VSC-250VA-3%RE	HIGH VOLT BX
SH	**>>SWITCH-HAND OPERATED**				
SHAM	SWITCH-AUTO/MANUAL	WCG1CLSB	09N405M240	SWASS N2W 4NO	SWITCH PANEL
SHAM	SWITCH-AUTO/MANUAL	WCG1CLSC	09N405M240	SWASS N2W 4NO	SWITCH PANEL
SHBL	SWITCH-BELT IS LOADED	WCG1CLSB	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHFR	SWITCH-FORWARD/REVERSE	WCG1CLSB	09N405M320	SWASS M3W 2NO	SWITCH PANEL
SHS+	SWITCH-START	WCG1CLSB	09N405PG10	SWASS PBGN 1NO	SWITCH PANEL
SHSO	SWITCH-STOP	WCG1CLSB	09N405PR01	SWASS PBRD 1NC	SWITCH PANEL
SH1	SWITCH-AUTO/MANUAL	WCG1CLSB	09N405M240	SWASS N2W 4NO	SWITCH PANEL
SHER	SWITCH-EXTEND/RETRACT	WCG1CLSC	09N405M320	SWASS M3W 2NO	SWITCH PANEL
SHUD	SWITCH-UP/DOWN	WCG1CLSC	09N405M320	SWASS M3W 2NO	SWITCH PANEL
SHFS	SWITCH-FORMULA SELECT	WCG1CLSG	09N041N	ROTSW 5-POLE 8-POSIT 5A125V	SELECTOR BOX

COMPONENT PARTS LIST

COMPONENT NUMBER	FUNCTION OF THIS COMPONENT	WHERE TO FIND THIS COMPONENT	MILNOR P/N	DESCRIPTION	LOCATION
SHNC	SWITCH-NEW CUSTOMER	WCG1CLSG	09N405M210	SWASS M2W 1NO	SELECTOR BOX
SHRF	SWITCH-RANGE SELECT	WCG1CLSG	09N405M210	SWASS M2W 1NO	SELECTOR BOX
SHSMA	SWITCH-MASTER	WCG1CLSA	09N405M220	SWASS M2W 2NO	SWITCH PANEL
SHSBL	SWITCH-REGULAR/SMALL LOAD	WCG1CLSG	09N405M210	SWASS M2W 1NO	SELECTOR BOX
SM	**>>SWITCH-MECHANICAL**				
SMLH	SWITCH-COELD AT LOAD HEIGHT	WCG1CLSB	09RM01412S	CAPSW 12'ROTARY ACTUATE SILVER	SIDE OF BELT
SMDH	SWITCH-COELD AT DISCHARGE	WCG1CLSC	09RM01412S	CAPSW 12'ROTARY ACTUATE SILVER	SIDE OF BELT
SMDN	SWITCH-DOWN LIMIT	WCG1CLSC	09RM01412S	CAPSW 12'ROTARY ACTUATE SILVER	SIDE OF BELT
SMFE	SWITCH-FULLY EXTENDED	WCG1CLSC	09RM01412S	CAPSW 12'ROTARY ACTUATE SILVER	SIDE OF BELT
SMFR	SWITCH-FULLY RETRACTED	WCG1CLSC	09RM01412S	CAPSW 12'ROTARY ACTUATE SILVER	SIDE OF BELT
SMUP	SWITCH-UP LIMIT	WCG1CLSC	09RM01412S	CAPSW 12'ROTARY ACTUATE SILVER	SIDE OF BELT
SMB1	SWITCH-BUMP BELT FRWRD WHEN LOAD	WCG1CLSA	09R012STDG	82026# * 09R012 +MOUNTING HDWRE+INST	SIDE OF BELT
SMB2	SWITCH-BUMP BELT FRWRD WHEN LOAD	WCG1CLSA	09R012STDG	82026# * 09R012 +MOUNTING HDWRE+INST	SIDE OF BELT
VE	**>>VALVE**				
VEEX	VALVE-EXTEND BELT	WCG1CLSC	96R301A24	1/8" AIRPILOT 3W NC 24V50/60	VALVE BOX
VERT	VALVE-RETRACT BELT	WCG1CLSC	96R302A24	1/8" AIRPILOT 3W NC 24V50/60	VALVE BOX

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LIMITED STANDARD WARRANTY

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment (unless the time period is specifically extended for certain parts pursuant to a specific MILNOR published extended warranty) from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will at our option repair or replace the defective part or parts, FOB our factory. We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is tampered with, modified, or abused, used for purposes not intended in the design and construction of the machine, or is repaired or altered in any way without MILNOR's written consent.

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BIUUUD19 (Published) Book specs- Dates: 20081231 / 20081231 / 20081231 Lang: ENG01 Applic: UUU

How to Get the Necessary Repair Components

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

You can get components to repair your machine from the approved supplier where you got this machine. Your supplier will usually have the necessary components in stock. You can also get components from the Milnor® factory.

Tell the supplier the machine model and serial number and this data for each necessary component:

- The component number from this manual
- The component name if known
- The necessary quantity
- The necessary transportation requirements
- If the component is an electrical component, give the schematic number if known.
- If the component is a motor or an electrical control, give the nameplate data from the used component.

To write to the Milnor factory:

Pellerin Milnor Corporation
Post Office Box 400
Kenner, LA 70063-0400
UNITED STATES

Telephone: 504-467-2787
Fax: 504-469-9777
Email: parts@milnor.com

— End of BIUUUD19 —

BIUUUK01 (Published) Book specs- Dates: 20130308 / 20130308 / 20130308 Lang: ENG01 Applic: PCR UUU

How to Use Milnor® Electrical Schematic Diagrams

Milnor® electrical schematic manuals contain a table of contents/component list and a set of schematic drawings. These documents are cross referenced and must be used together.

The table of contents/components list shows, for every component on every schematic in the manual, the component item number (explained in detail below), statement of function, parent schematic number, part number, description and electric box location. In older manuals, two component lists are provided: List 1 sorts the components by function, and List 2 by type of component. Newer schematic manuals include only the list sorted by component number.

The schematic drawings use symbols for each electromechanical component, and indicate the function of each. Integrated circuits are not shown, but the function of each microprocessor input and output is stated. Certain electrical components not pertinent to circuit logic, such as wire connectors, are not represented on the schematic.

Most machines require several schematics to describe the complete control system and all the options available on the included models. In most manuals there are some schematic pages that don't apply to your specific machine because certain options and configurations are mutually exclusive or are not necessary in all markets. You may find it helpful to mark or remove such pages. A schematic page that only applies to a subset of machines will normally state, in the title, which models and/or options it covers. Compare this with the nameplate on your machine and with your purchase records.

Each schematic is devoted to circuits with common functions (e.g., microprocessor inputs, motor contactors). Schematics appear in the manual in alphanumeric order.

1. Component Prefix Classifications and Descriptions

Component item numbers consist of up to six characters and appear as part of a component's symbol on the schematic. The first two characters indicate the general class of component, and the remaining characters are a mnemonic for the function. For example, “CD” is the code for all time delay relays, and “SR” stands for safety reset. Thus, CDSR is a time delay relay that serves as a safety reset.

The following are descriptions of electrical components used in Milnor® machines. Descriptions are in alphabetical order by the component class code (two character prefix).

> **Note 1:** Some component class codes do not have a corresponding symbol, but are represented by a box and an accompanying note describing the component. Examples of such codes are BA (printed circuit board), ED (electronic display), and ES (electronic power supply).

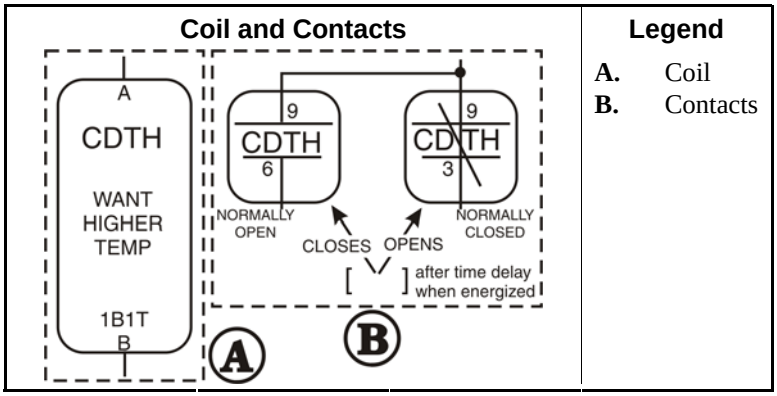
BA=Printed Circuit Board—Insulating substrate on which a thin pattern of copper conductors has been formed to connect discrete electronic components also mounted on the board.

CB=Circuit Breaker (Figure 1)—Automatic switch that opens an electric circuit in abnormal current conditions (e.g., an overload).

Figure 1: Circuit Breaker (CB)

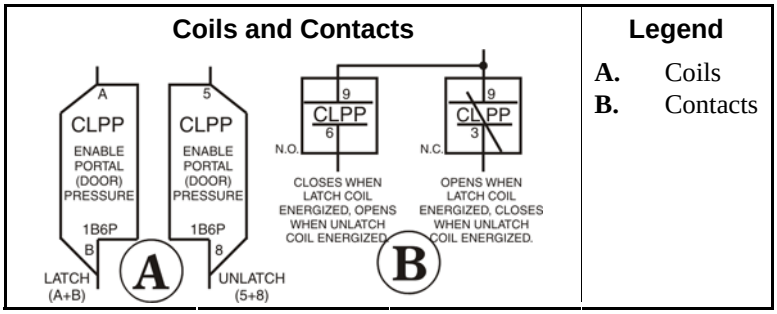
CD=Control, Time Delay Relay (Figure 2)—A relay whose contacts switch only after a fixed or adjustable delay, once voltage has been applied to its coil. The contacts switch back to normal (de-energized state) immediately when the voltage is removed.

Figure 2: Time Delay Relay (CD)



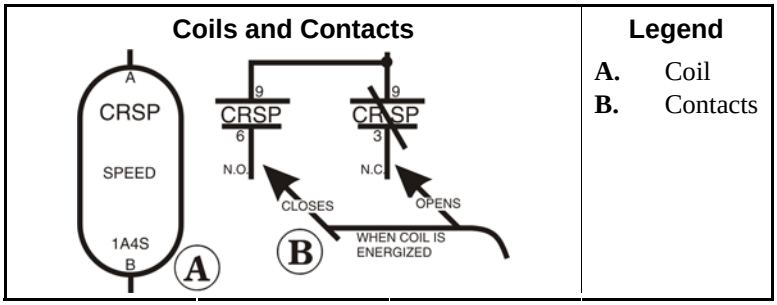
CL=Control, Latch Relay (Figure 3)—A relay which latches in an energized or set position when operated by one coil (the latch/set coil). The relay stays latched even though coil voltage is removed. The relay releases or unlatches when voltage is applied to a second coil (the unlatch/reset coil).

Figure 3: Latch Relay (CL)



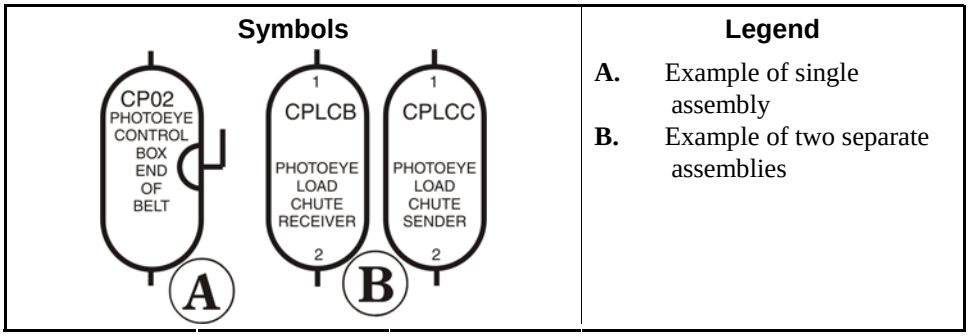
CR=Control, Relay (Figure 4)—A relay whose contacts switch immediately when voltage is applied to its coil and revert to normal when the voltage is removed.

Figure 4: Standard Relay (CR)



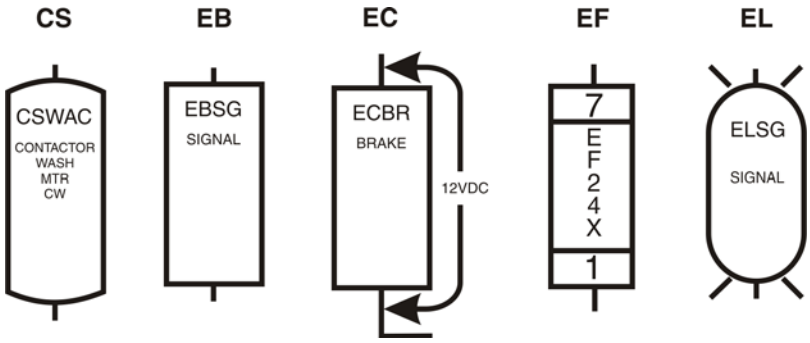
CP=Control, Photo-Eye (Figure 5)—Photo-eyes sense the presence of an object without direct physical contact. Photo-eyes consist of a transmitter, receiver, and output module. These components may be housed in one assembly with the transmitter bouncing light off of a reflector to the receiver, or these components can be housed in two separate assemblies with the transmitter pointed directly at the receiver. The photo-eye can be set to turn on its output either when the light beam becomes blocked (dark operate) or when it becomes un-blocked (light operate).

Figure 5: Photo-eye (CP)



CS=Control, Contactor/Motor Starter (Figure 6)—A relay capable of handling heavier electrical loads, usually a motor.

Figure 6: Other Control Symbols



EB=Electric Buzzer (Figure 6)—An audible signaling device.

EC=Electric Clutch (Figure 6)—A clutch consists of a coil and a rotor. The rotor has two separate rotating plates. These plates are free to rotate independent of each other until the coil is energized. Once energized the two plates turn as one.

ED=Electronic Display—A visual presentation of data, such as an LCD (liquid crystal display), LED (light emitting diode) display, or VFD (vacuum florescent display).

EF=Electric Fuse (Figure 6)—A fuse is an over-current safety device with a circuit opening fusible member which is heated and severed by the passage of over-current through it.

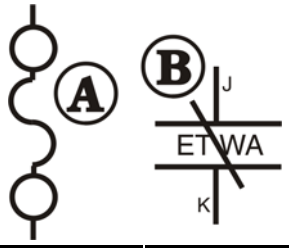
EL=Electric Light (Figure 6)—Indicator lights may be either incandescent or fluorescent.

EM=Electro Magnet Solenoid—A device consisting of a core surrounded by a wire coil through which an electric current is passed. While current is flowing, iron is attracted to the core (e.g., a pinch tube drain valve solenoid).

ES=Electronic Power Supply—A device that converts AC (alternating current) to filtered and regulated DC (direct current). The input voltage to the power supply is usually 120 or 240 VAC. The output is +5, +12, and -12 VDC.

ET=Thermal Overload (Figure 7)—A safety device designed to protect a motor. A thermal overload consists of an overload block, heaters, and an auxiliary contact. The auxiliary contact is normally installed in a safety (three-wire) circuit that stops power to the motor contactor coil when a motor overload occurs.

Figure 7: Thermal Overload (ET)

Schematic Symbol	Legend
	**A.** Heater (one per phase) **B.** Overload relay; contacts open if overload condition exists

EX=Electrical Transformer (Figure 8)—A device that transfers electrical energy from one isolated circuit to another, often raising or lowering the voltage in the process.

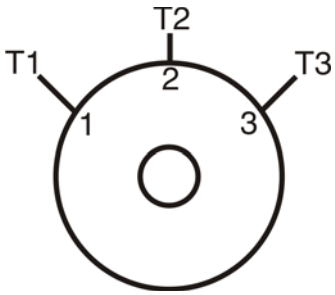
KB=Keyboard—Device similar to a typewriter for making entries to a computer.

MN=Electronic Monitor (CRT)—A cathode ray tube used for visual presentation of data.

MR=Motors (Figure 9)—Electromechanical device that converts electrical energy into mechanical energy.

Figure 8: Transformer (EX)

Figure 9: Electric Motor (MR)

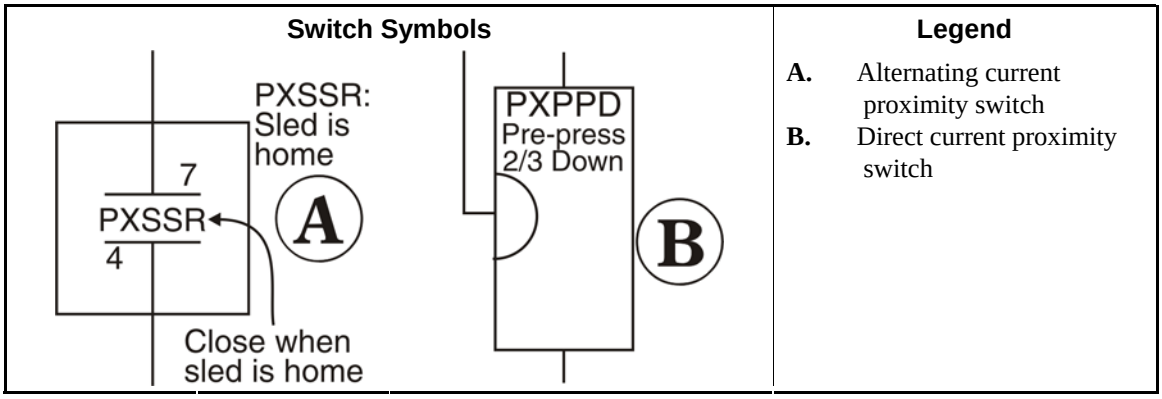


MV=Motor (Variable Speed) Inverter—To vary the speed of an AC motor, the volts to frequency ratio must be kept constant. The motor will overheat if this ratio is not maintained. The motor variable speed inverter converts three phase AC to DC. The inverter then uses this DC voltage to generate AC at the proper voltage and frequency for the commanded speed.

Note 2: Switch symbols used in the schematics and described below always depict the switch in its un-actuated state.

PX=Proximity Switch (Figure 10)—A device which reacts to the proximity of an target without physical contact or connection. The actuator or target causes a change in the inductance of the proximity switch which causes the switch to operate. Proximity switches can be two-wire (AC) or three-wire (DC) devices.

Figure 10: Proximity Switches (PX)



SC=Switch, Cam Operated (Figure 11)—A switch in which the electrical contacts are opened and/or closed by the mechanical action of a cam(s). Applications include 35-50 pound timer operated machines, Autospot, timer reversing motor assembly, and some balancing systems.

SH=Switch, Hand Operated (Figure 12)—A switch that is manually operated (e.g., *Start button*, *Master switch*, etc.).

Figure 11: Cam Switch (SC)

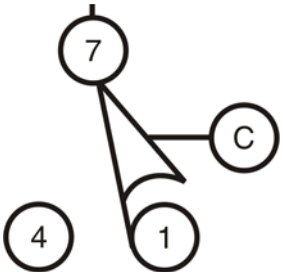
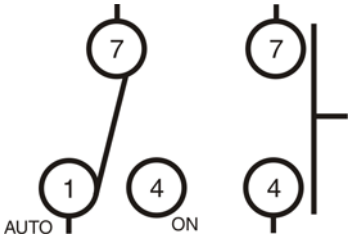


Figure 12: Hand Operated Switch (SH)



SK=Switch, Key Lock (Figure 13)—A switch that requires a key to operate. This prevents unauthorized personnel from gaining access to certain functions (e.g., the *Program menu*).

SL=Switch, Level Operated (Figure 14)—A switch connected to a float that causes the switch to open and close as the level changes.

Figure 13: Key Switch (SK)

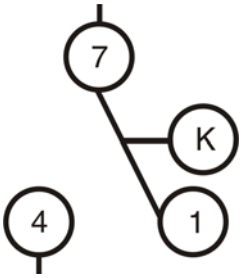
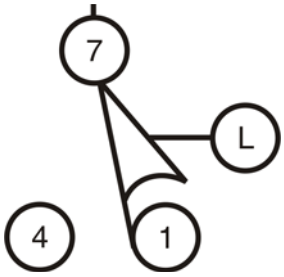


Figure 14: Level Switch (SL)



SM=Switch, Mechanically Operated (Figure 15)—A switch that is mechanically operated by a part of or the motion of the machine (e.g., door closed switch, tilt limit switches, etc.)

SP=Switch, Pressure Operated (Figure 16)—A switch in which a diaphragm presses against a switch actuator.

Figure 15: Mechanical Switch (SM)

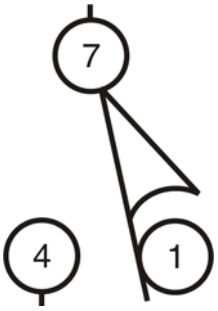
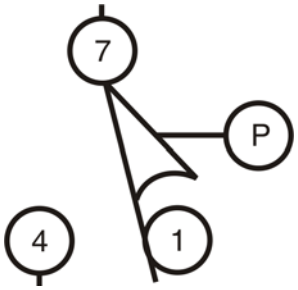


Figure 16: Pressure Switch (SP)



ST=Switch, Temperature Operated (Figure 17)—A switch that is actuated at a preset temperature (e.g., dryer safety probes) or has adjustable set points (e.g., Motometers or Combistats).

TB=Terminal Board (Figure 18)—A strip or block for attaching or terminating wires.

Figure 17: Temperature Switch (ST)

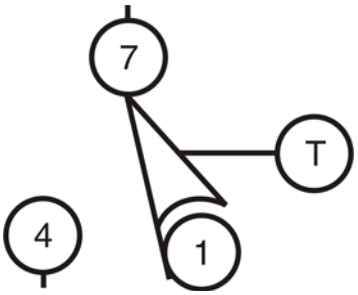
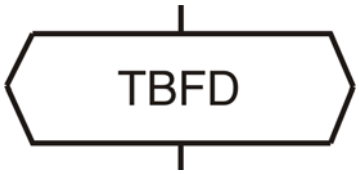


Figure 18: Terminal Board (TB)



VE=Valve, Electric Operated (Figure 19)—A valve operated by an electric coil to control the flow of fluid. The fluid can be air, water or hydraulic.

Figure 19: Electrically Operated Valve (VE)

ZF=Rectifier (Figure 20)—A solid state device that converts alternating current to direct current.

Figure 20: Bridge Rectifier (ZF)

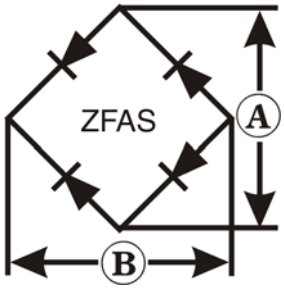
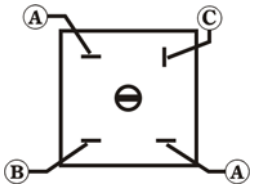
Component Symbol	Legend
	**A.** Alternating current input **B.** Direct current output

Figure 21: Bridge Rectifier

Component	Legend
	**A.** Alternating current in **B.** Negative direct current out **C.** Positive direct current out

WC=Wiring Connector—A coupling device for joining two cables or connecting a cable to an electronic circuit or piece of equipment. Connectors are male or female, according to whether they plug into or receive the mating connector.

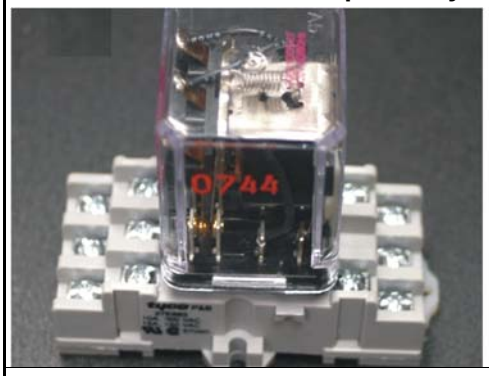
2. Component Terminal Numbering

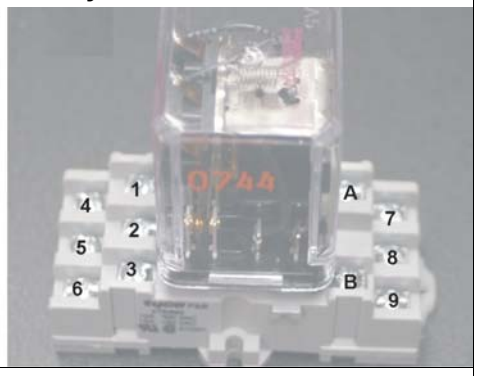
CAUTION 1: Risk of Mis-wiring—Due to electrical component manufacturing inconsistencies, the pin numbers imprinted on components such as connectors and relay bases used on Milnor machines often do not correspond to the pin numbers shown in the schematics.

- Ignore pin numbers imprinted on in-line connectors (e.g., Molex connectors) and relay bases.
- Use the pin identification illustrations herein to identify pins on these components.

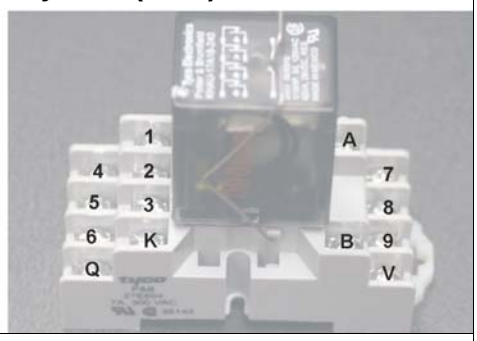
Figure 22: Plug-in Relays

11-pin Relay with Grey Base

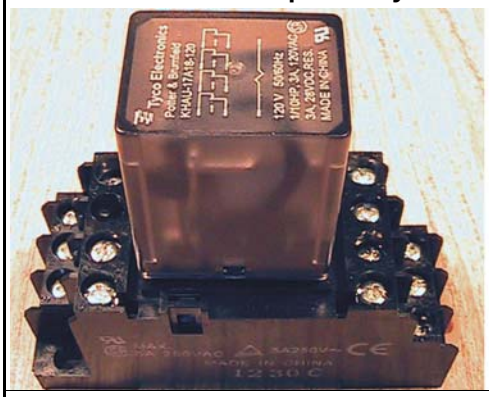


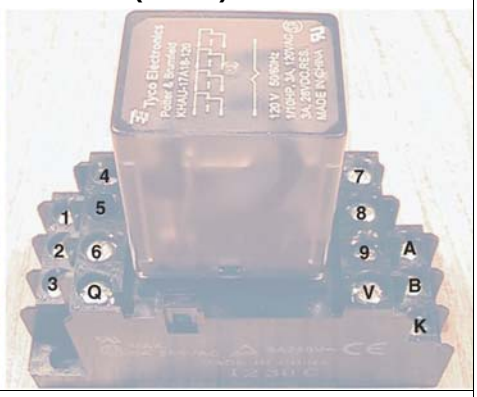


14-pin Relay with Grey Base (older)

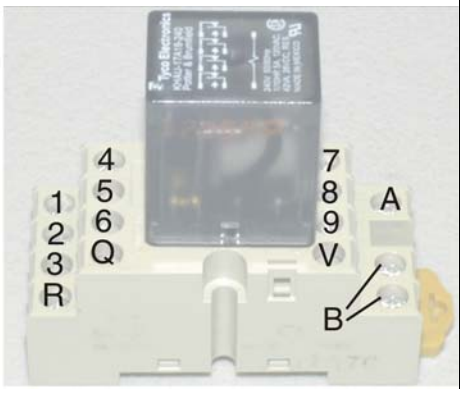


14-pin Relay with Black Base (newer)





14-pin Relay with Beige Base (rare)



Legend

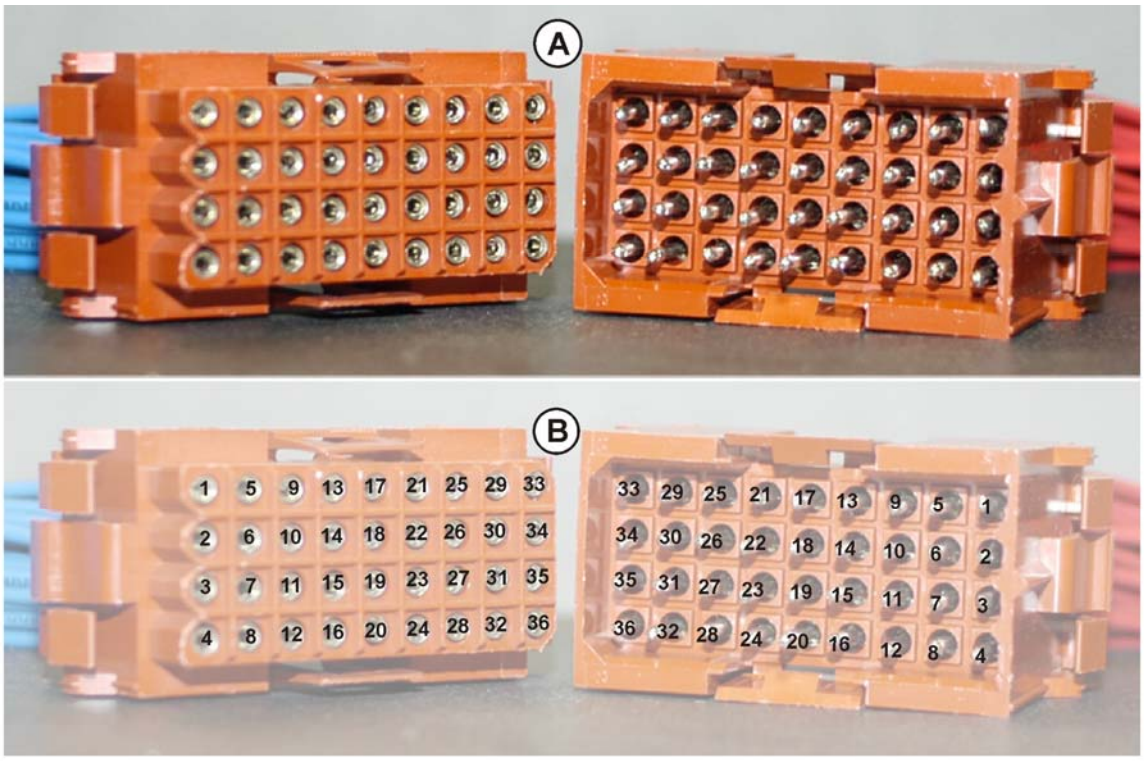
Left. View of relay and base

Right. Same view, showing pin numbers

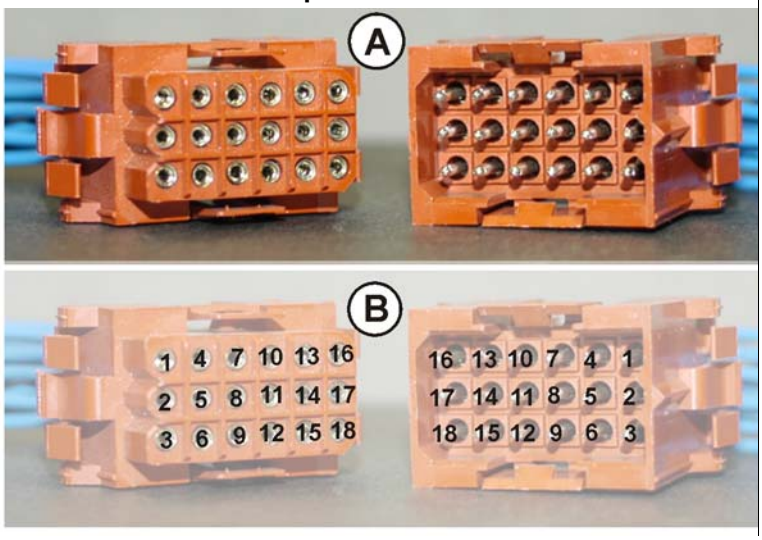
Note 3: Relay functional names ending with the letter "M" (e.g., CRxxM) are not discrete components but are a component of a printed circuit board. They are usually not individually replaceable.

Figure 23: AMP Connector Pin Locations

36-pin Connector



18-pin Connector

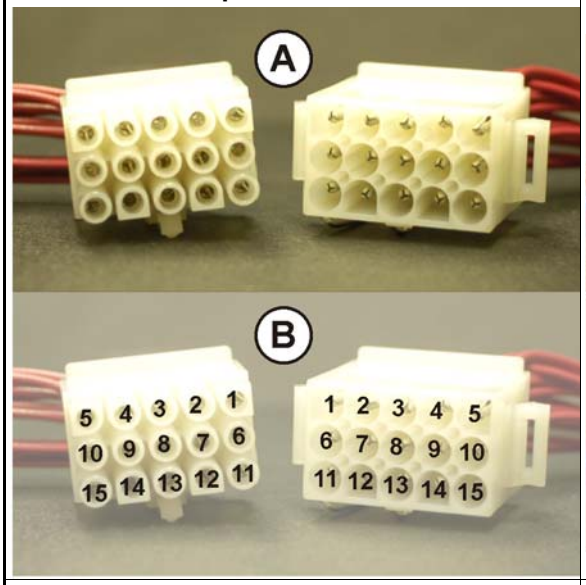


Legend

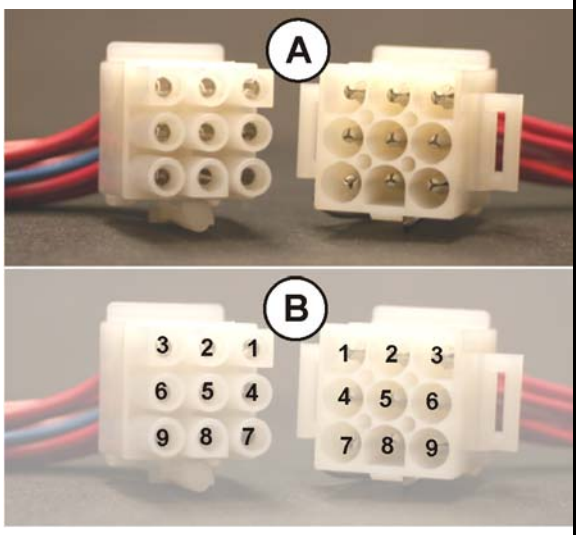
A. View of mating halves of connector
B. Same view, showing assigned pin numbers

Figure 24: Molex Connector Pin Locations

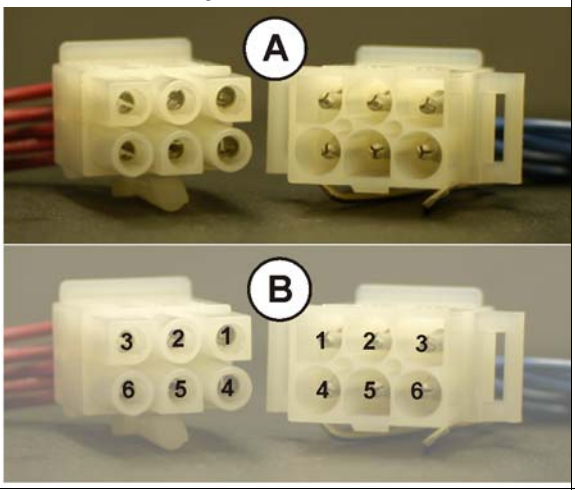
15-pin Connector



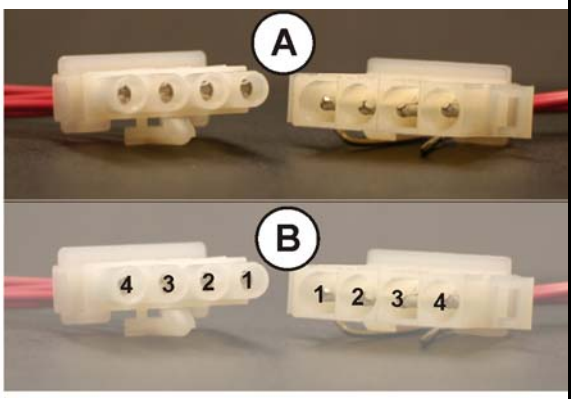
9-pin Connector



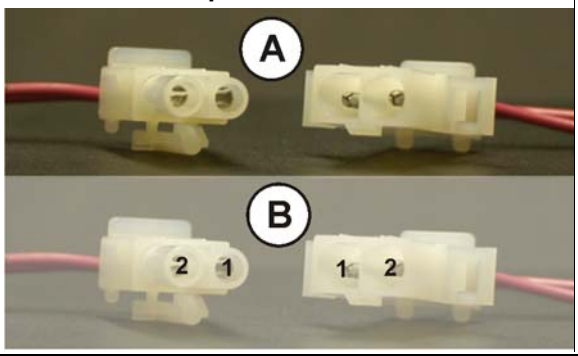
6-pin Connector



4-Pin Connector



2-pin Connector



Legend

A. View of mating halves of connector
B. Same view, showing assigned pin numbers

Figure 25: Pressure Switch

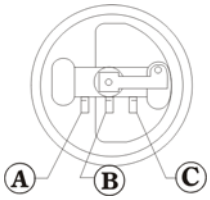
Component	Legend
	**A.** Contact 1—Normally open **B.** Contact 2—Normally closed **C.** Contact 3—Common

Figure 26: Toggle Switch

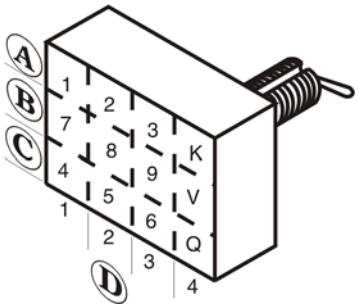
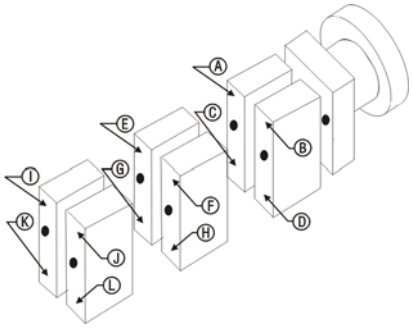
Component	Legend
	**A.** Normally closed contacts **B.** Common contacts **C.** Normally open contacts **D.** Pole

Figure 27: Switch with Replaceable Contact Blocks

Rotary or Push-button Switch Component	Legend
	**A.** Terminal 7 **B.** Terminal 8 **C.** Terminal 4 if normally open; terminal 1 if normally closed **D.** Terminal 5 if normally open; terminal 2 if normally closed **E.** Terminal V **F.** Terminal 9 **G.** Terminal Q if normally open; terminal K if normally closed **H.** Terminal 6 if normally open; terminal 3 if normally closed **I.** Terminal W **J.** Terminal X **K.** Terminal R if normally open; terminal L if normally closed **L.** Terminal S if normally open; terminal M if normally closed

3. Features of Milnor® Electrical Schematic Diagrams

Document BMP010012 (following this section) is a sample schematic, based on a schematic diagram for the Milnor® gas dryer. For the purposes of this exercise, the schematic is shown gray and explanations of the items on the schematic are shown black.

The item numbers below correspond to the circled item numbers shown on the drawing.

1. The first six characters of the drawing number (W6DRYG) indicate that this is a wiring diagram (W), identify the generation of controls (6), and identify the type of machine (DRYG=Gas Dryer). These characters appear in the drawing number of every schematic in the set.

   The characters following the first six are unique to each drawing. The two characters identified as the page number are an abbreviation for the function performed by the depicted

circuitry (S+=three-wire circuit) and establish the order in which the schematic occurs in the manual (schematics are arranged in alpha-numeric order in the manual).

Whenever circuitry changes are significant enough to warrant publishing a new schematic drawing, the new drawing number will be the same as the old except for the major revision letter (A in the example).

2. Included in the drawing title are the class of control system, the title of this circuit, and the circuit voltage.
3. Line numbers are provided along the bottom edge of the drawing. These permit service personnel in the field and at the Milnor® factory to quickly relate circuit locations when discussing troubleshooting over the phone. Page and line numbers are referenced on the drawing as explained in items five and six below.
4. Relay contacts show the page and line number on which the relay coil may be found. This is the type of cross referencing most frequently used in troubleshooting.
5. Relay coils show the page and line number on which its associated contacts are located.
6. Relay contacts and relay coils show the physical location of the relay.
7. The designation MTA applies to electronic circuit board connections. Typically, a control system will contain several different types of circuit boards and one or more boards of each type. A numerical suffix identifies the board type and a numerical prefix identifies which one of several boards of a given type is being depicted. For example, the designation 1MTA5 identifies this as the first I/O board (8 output, 16 input board) in the control system. As shown on the drawing, a pin number follows the board number, separated by a dash. Thus, 1MTA5-9 is pin 9 on this board. The numerical designations for board types vary from one control system to another. Some of the board types commonly encountered on the Mark V and Mark VI washer-extractor control and their designations are as follows:
   - MTM1-MTM8 = Mother board
   - MTA1-MTA5 = 8 output, 16 input (8/16) boards
   - MTA11-MTA14 = 24 output boards
   - MTA30-MTA40 = processor boards
   - MTA41-MTA43 = digital to analog (D/A) boards
   - MTA51-MTA55 = analog to digital (A/D) boards
   - MTA81-MTA85 = balance A-D board

   The complete listing of the boards utilized in a given control system can be found in the component list for that system.
8. Wire numbers, as described earlier in this section, are shown at appropriate locations on the schematic drawing.
9. Where diamond symbols appear at the end of a conductor, these are match points for continuing the schematic on another drawing. The page and line number that continues the circuit is printed adjacent to the diamond symbol. Where more than one match point appears on the referenced page, match diamonds containing corresponding letters.

— End of BIUUUK01 —

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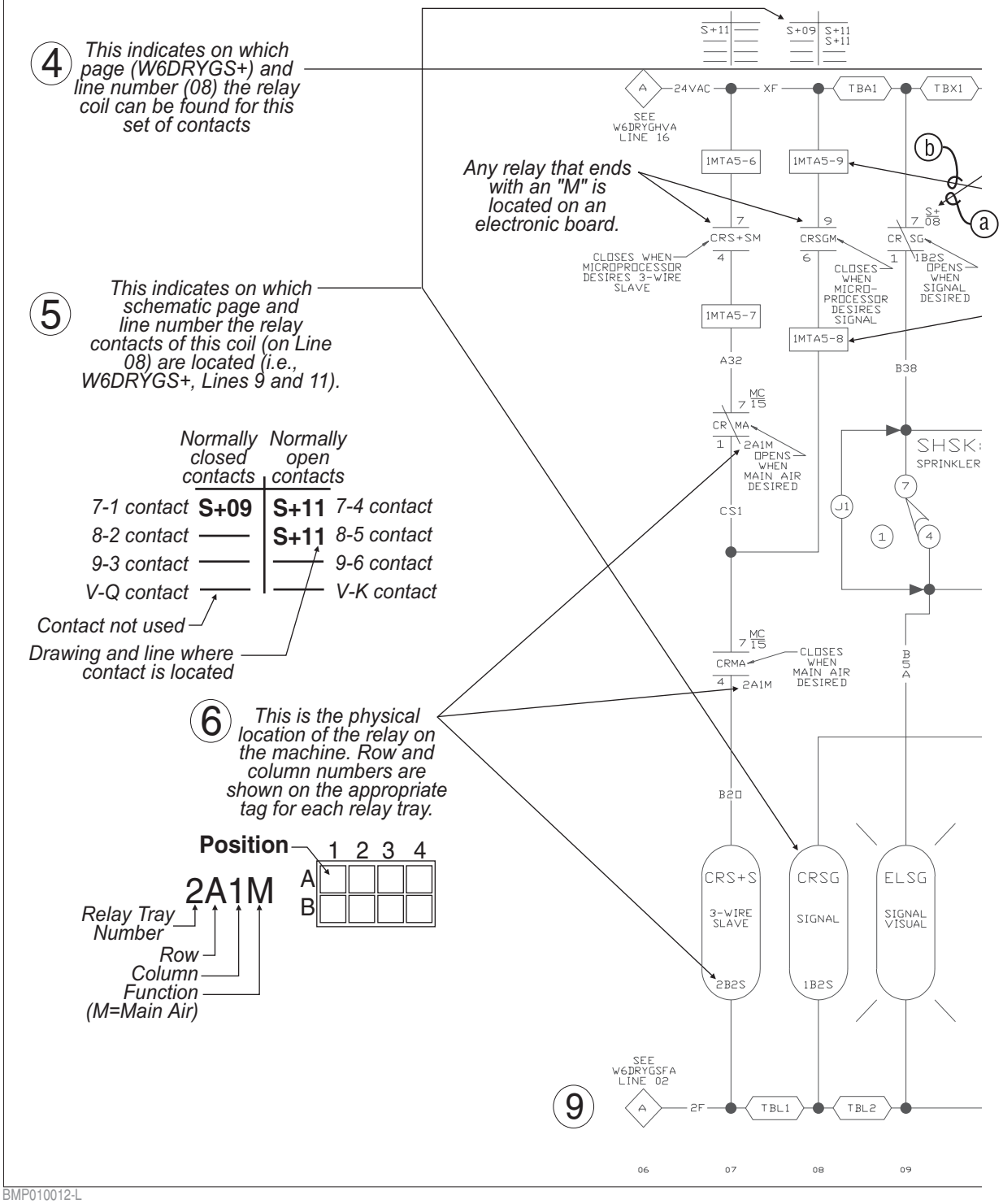
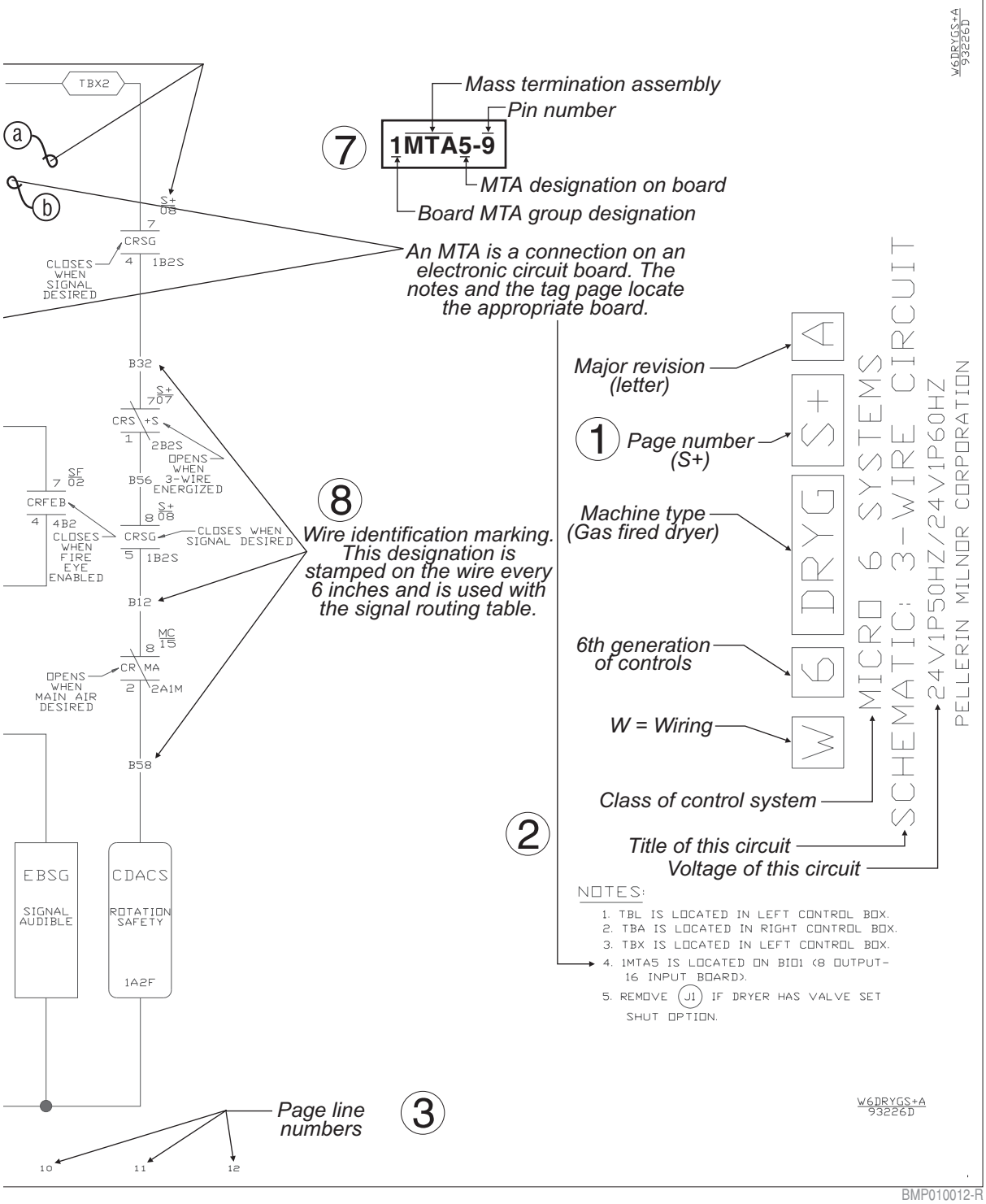
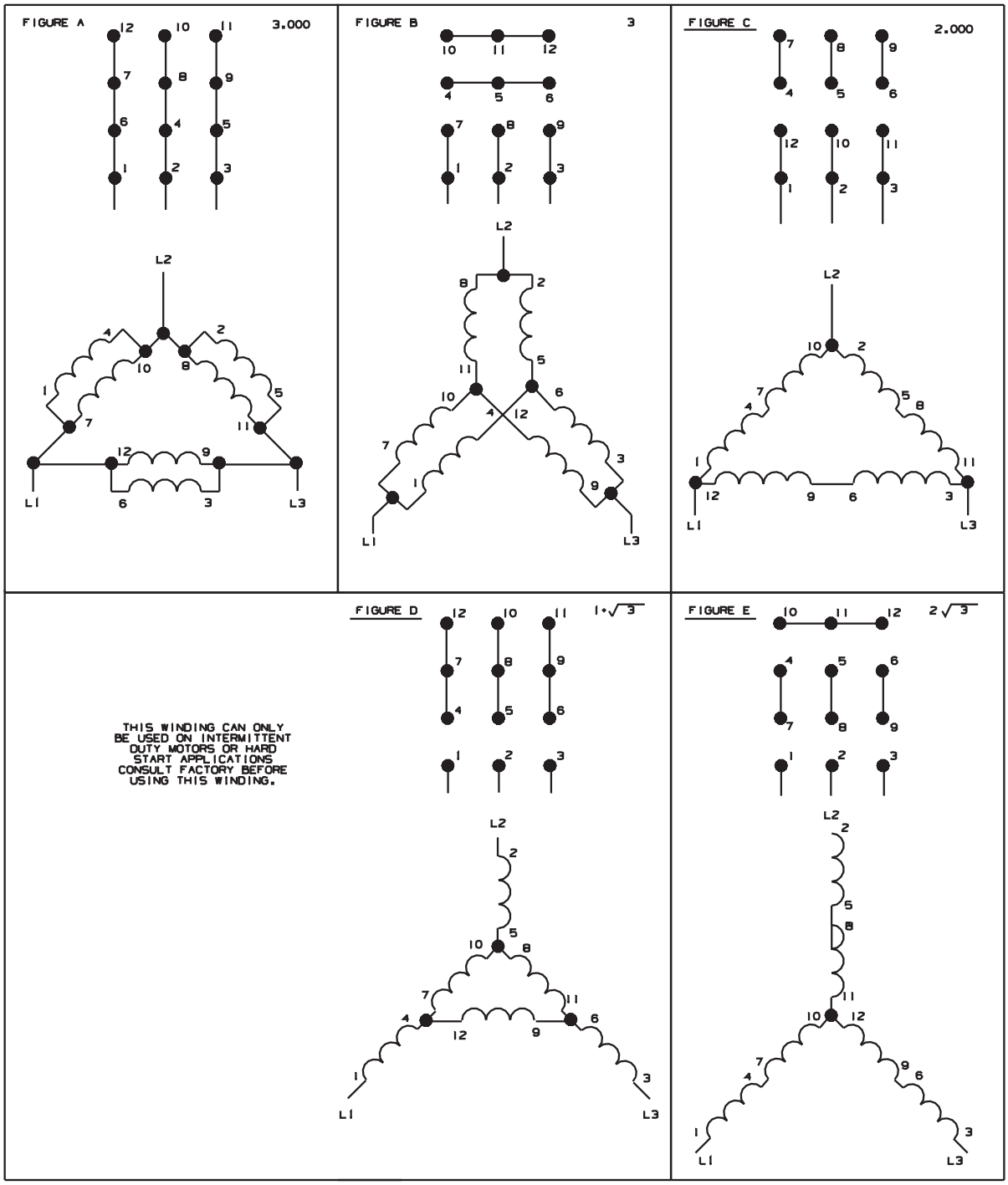

4
This indicates on which page (W6DRYGS+) and line number (08) the relay coil can be found for this set of contacts
5
This indicates on which schematic page and line number the relay contacts of this coil (on Line 08) are located (i.e., W6DRYGS+, Lines 9 and 11).
Normally closed contacts
Normally open contacts
7-1 contact S+09 S+11 7-4 contact
8-2 contact S+11 8-5 contact
9-3 contact 9-6 contact
V-Q contact V-K contact
Contact not used
Drawing and line where contact is located
6
This is the physical location of the relay on the machine. Row and column numbers are shown on the appropriate tag for each relay tray.
Position 1 2 3 4
A
B
2A1M
Relay Tray Number
Row
Column
Function (M=Main Air)
Any relay that ends with an "M" is located on an electronic board.
S+11
S+09 S+11 S+11
A
24VAC
XF
TBA1
TBX1
SEE W6DRYGHVA LINE 16
1MTA5-6
1MTA5-9
b
a
S+08
CRS+SM
CRSGM
CR SG
CLOSES WHEN MICROPROCESSOR DESIRES 3-WIRE SLAVE
CLOSES WHEN MICRO-PROCESSOR DESIRES SIGNAL
1B2S OPENS WHEN SIGNAL DESIRED
1MTA5-7
1MTA5-8
A32
B38
MC 15
CR MA
2A1M OPENS WHEN MAIN AIR DESIRED
SHSK
SPRINKLER
CS1
J1
CRMA
CLOSES WHEN MAIN AIR DESIRED
B5A
B20
CRS+S
3-WIRE SLAVE
2B2S
CRSG
SIGNAL
1B2S
ELSG
SIGNAL VISUAL
SEE W6DRYGSFA LINE 02
9
2F
TBL1
TBL2
06
07
08
09

BMP010012-L


W6DRYGS+A
93226D
TBX2
a
b
Mass termination assembly
Pin number
7
1MTA5-9
MTA designation on board
Board MTA group designation
An MTA is a connection on an electronic circuit board. The notes and the tag page locate the appropriate board.
S+ 08
7
CRSG
4
1B2S
CLOSES WHEN SIGNAL DESIRED
B32
S+ 707
CRS
1
+S
2B2S
OPENS WHEN 3-WIRE ENERGIZED
B56
SF 7 02
CRFEB
4
4B2
CLOSES WHEN FIRE EYE ENABLED
S+ 8 08
CRSG
5
1B2S
CLOSES WHEN SIGNAL DESIRED
8
Wire identification marking. This designation is stamped on the wire every 6 inches and is used with the signal routing table.
B12
MC 8 15
CR
2
MA
2A1M
OPENS WHEN MAIN AIR DESIRED
B58
EBSG
SIGNAL AUDIBLE
CDACS
ROTATION SAFETY
1A2F
Page line numbers
3
10
11
12
Major revision (letter)
1
Page number (S+)
Machine type (Gas fired dryer)
6th generation of controls
W = Wiring
Class of control system
2
Title of this circuit
Voltage of this circuit
W 6 DRYG S+ A
MICRO 6 SYSTEMS
SCHEMATIC: 3-WIRE CIRCUIT
24V1P50HZ/24V1P60HZ
PELLERIN MILNOR CORPORATION
NOTES:
1. TBL IS LOCATED IN LEFT CONTROL BOX.
2. TBA IS LOCATED IN RIGHT CONTROL BOX.
3. TBX IS LOCATED IN LEFT CONTROL BOX.
4. 1MTA5 IS LOCATED ON BIO1 (8 OUTPUT-16 INPUT BOARD).
5. REMOVE J1 IF DRYER HAS VALVE SET SHUT OPTION.
W6DRYGS+A
93226D

BMP010012-R

FIGURE	ELECTRICAL VALUES	SUFFIXES									
		B		H		M		T		U	
		50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ
A	1.000	208	230			200	220	220	240	200-220	208-240
B	$\sqrt{3}$				208	346	380	380		346-380	380
C	2.000	416	460	220	240	400	440	440	480	400-440	440-480
D	$1+\sqrt{3}$						600				600
E	$2\sqrt{3}$			380							



06 07 08 09 10 11 12 13 14 15 16 17

BMP850029

MOTOR CONNECTION DIAGRAMS

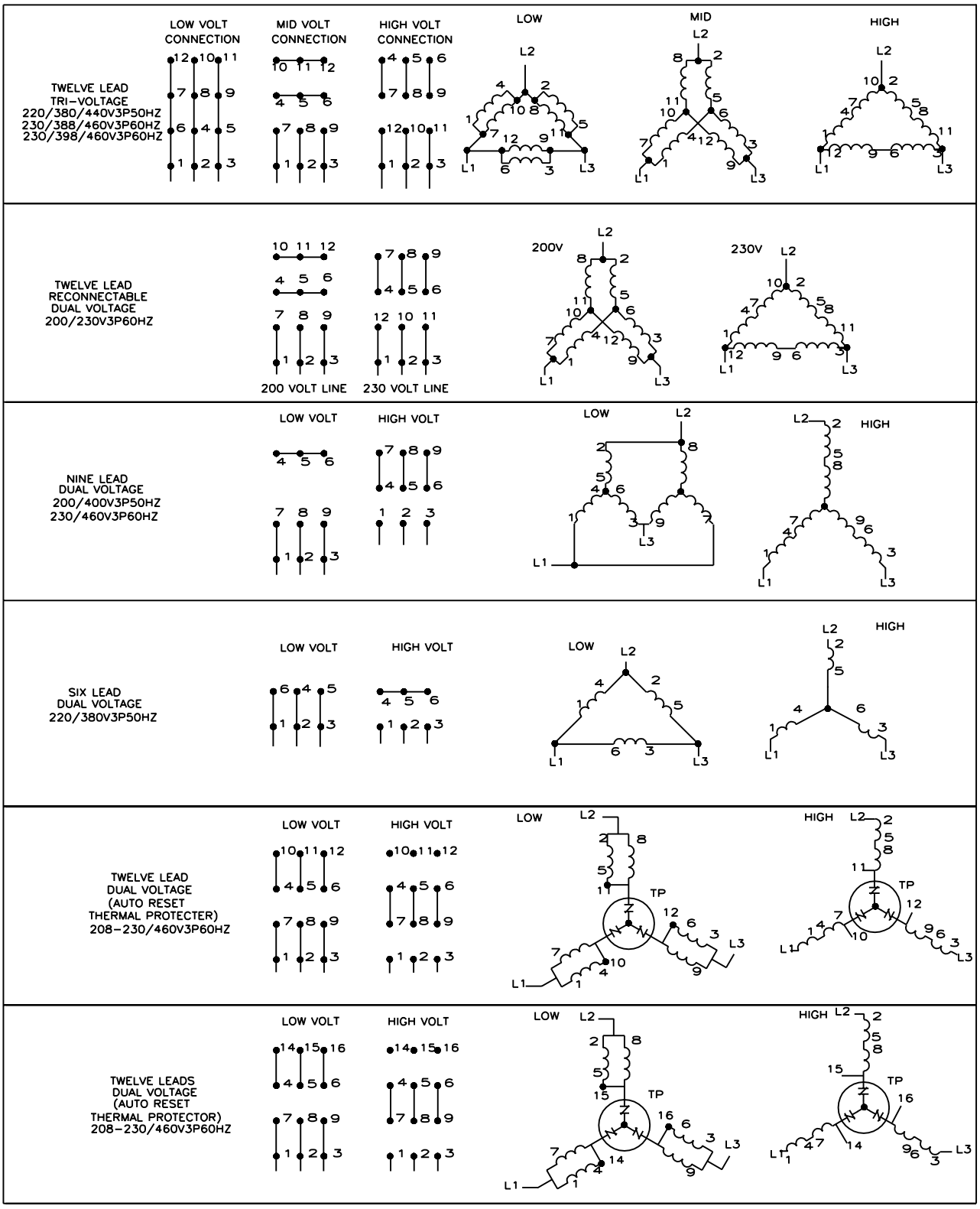
THREE PHASE SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS

(ONLY FOR MOTOR SUFFIXES LISTED)

PELLERIN MILNOR CORPORATION

BMP850029
993628

BMP850029
993628

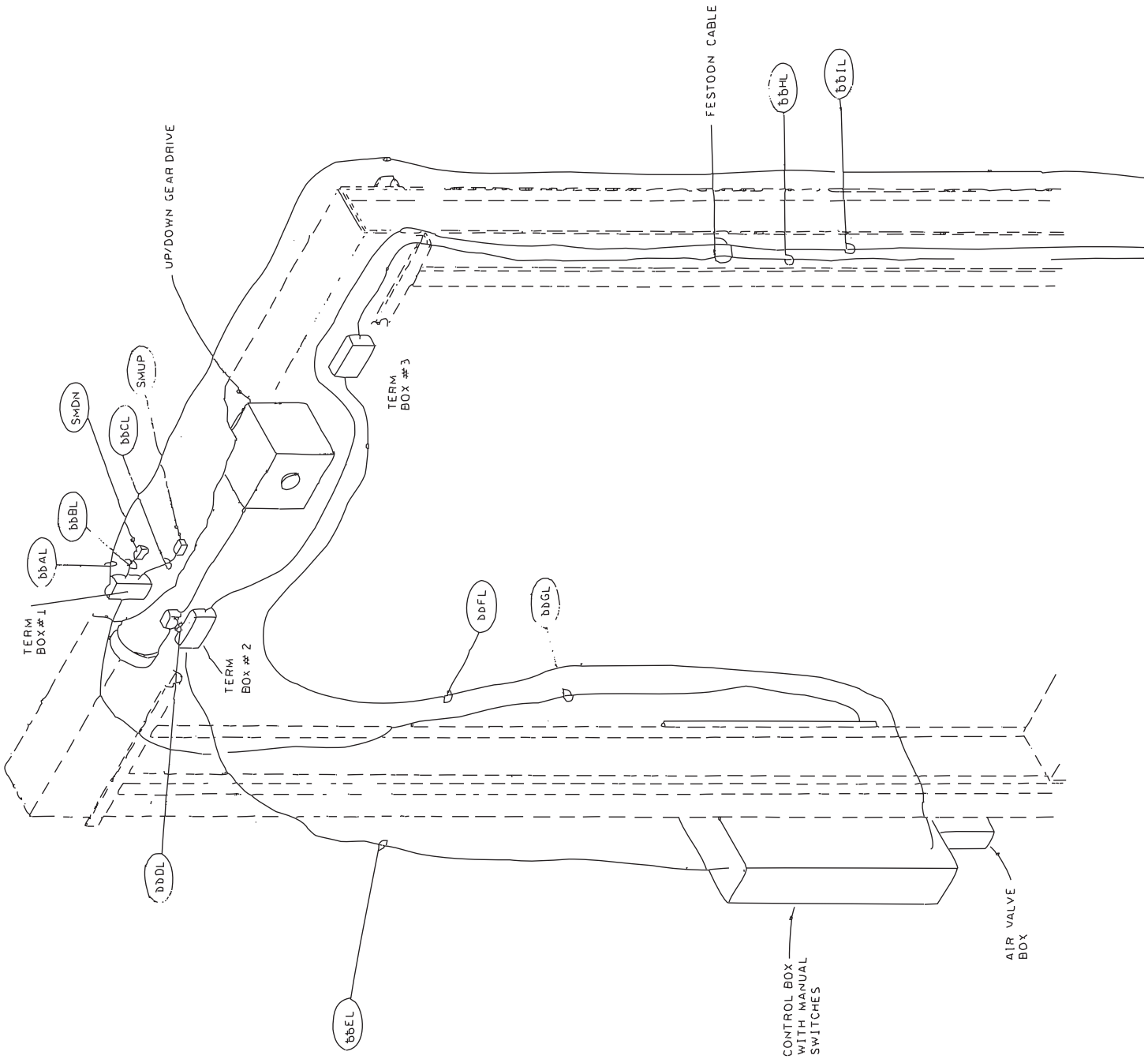


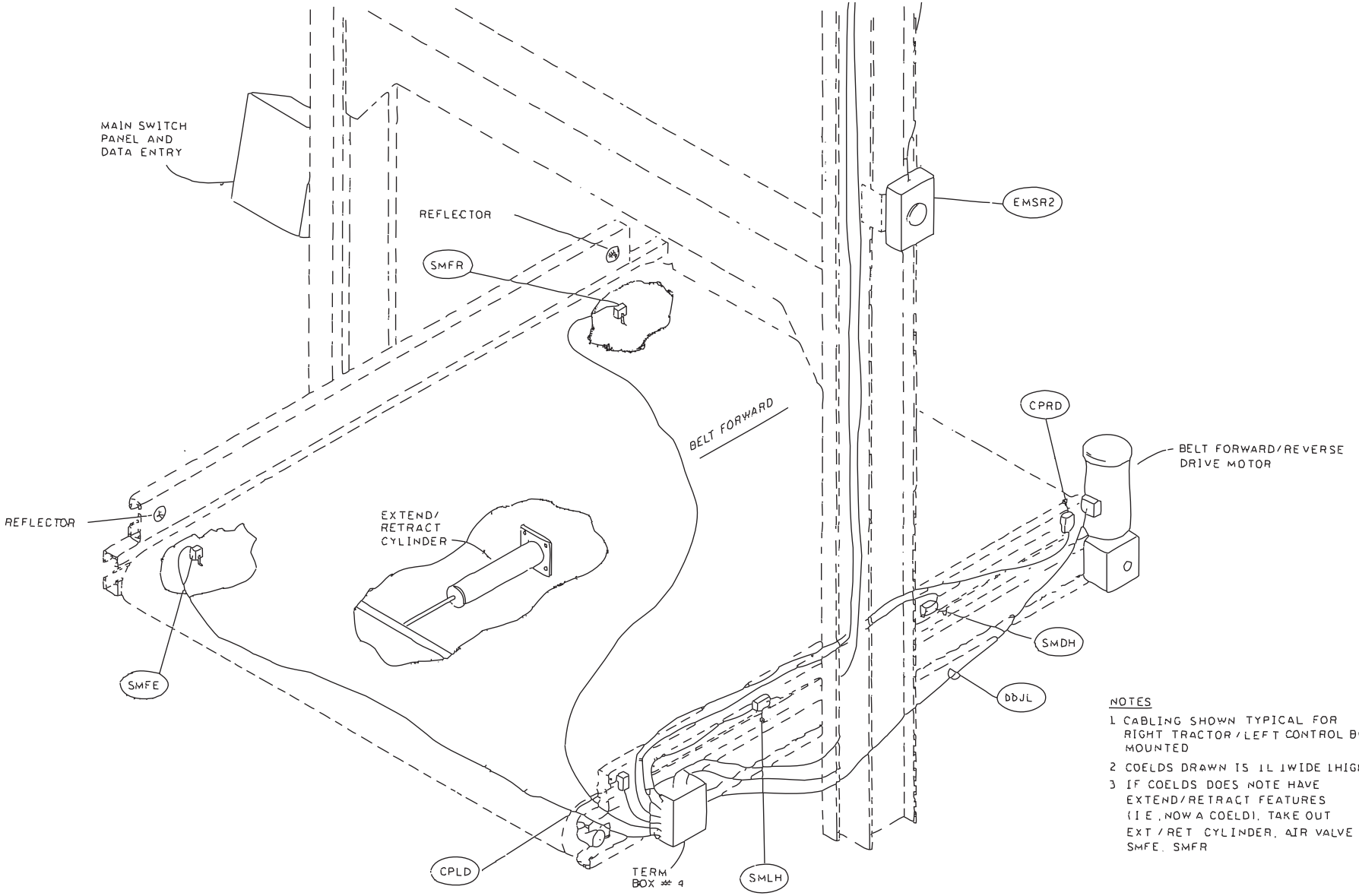
W80008

THREE PHASE
MOTOR CONNECTION DIAGRAMS
SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS

PELLERIN MILNOR CORPORATION

W80008
2001253A


FESTOON CABLE
bbHL
bbIL
UP/DOWN GEAR DRIVE
SMUP
SMDN
bbCL
bbBL
bbAL
TERM BOX #1
TERM BOX #2
TERM BOX #3
bbFL
bbGL
bbDL
bbEL
CONTROL BOX WITH MANUAL SWITCHES
AIR VALVE BOX



NOTES

1. CABLING SHOWN TYPICAL FOR RIGHT TRACTOR / LEFT CONTROL BOX MOUNTED
2. COELDS DRAWN IS 1L 1WIDE 1HIGH
3. IF COELDS DOES NOTE HAVE EXTEND/RETRACT FEATURES (I E , NOW A COELD), TAKE OUT EXT / RET CYLINDER, AIR VALVE BOX, SMFE, SMFR

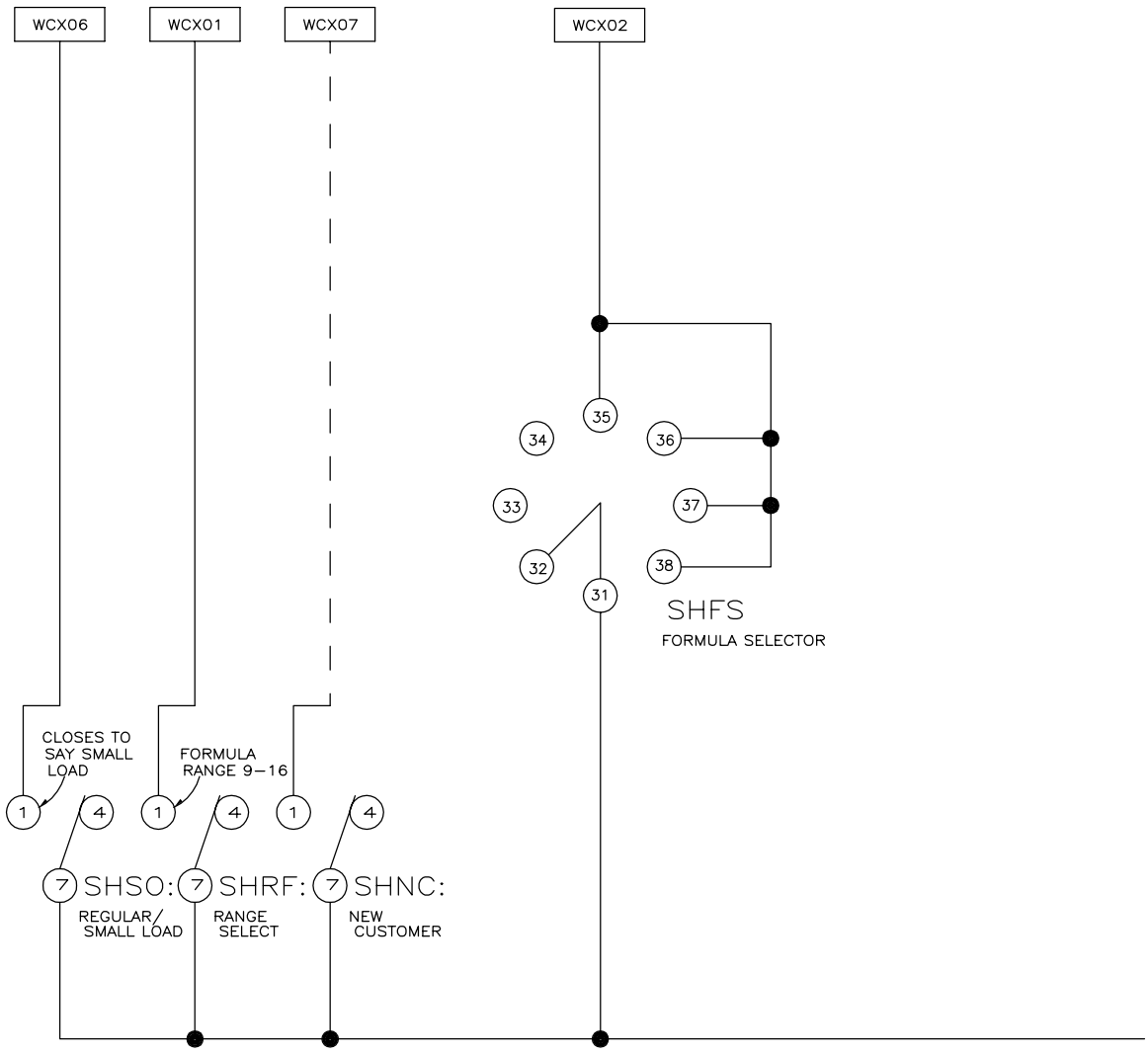
WCG1CLSH

COELD + COELDS

MICRO 6 SYSTEMS
SCHEMATIC CABLE ROUTING

PELLERIN MILNOR CORPORATION

WCG1CLSH
89106D

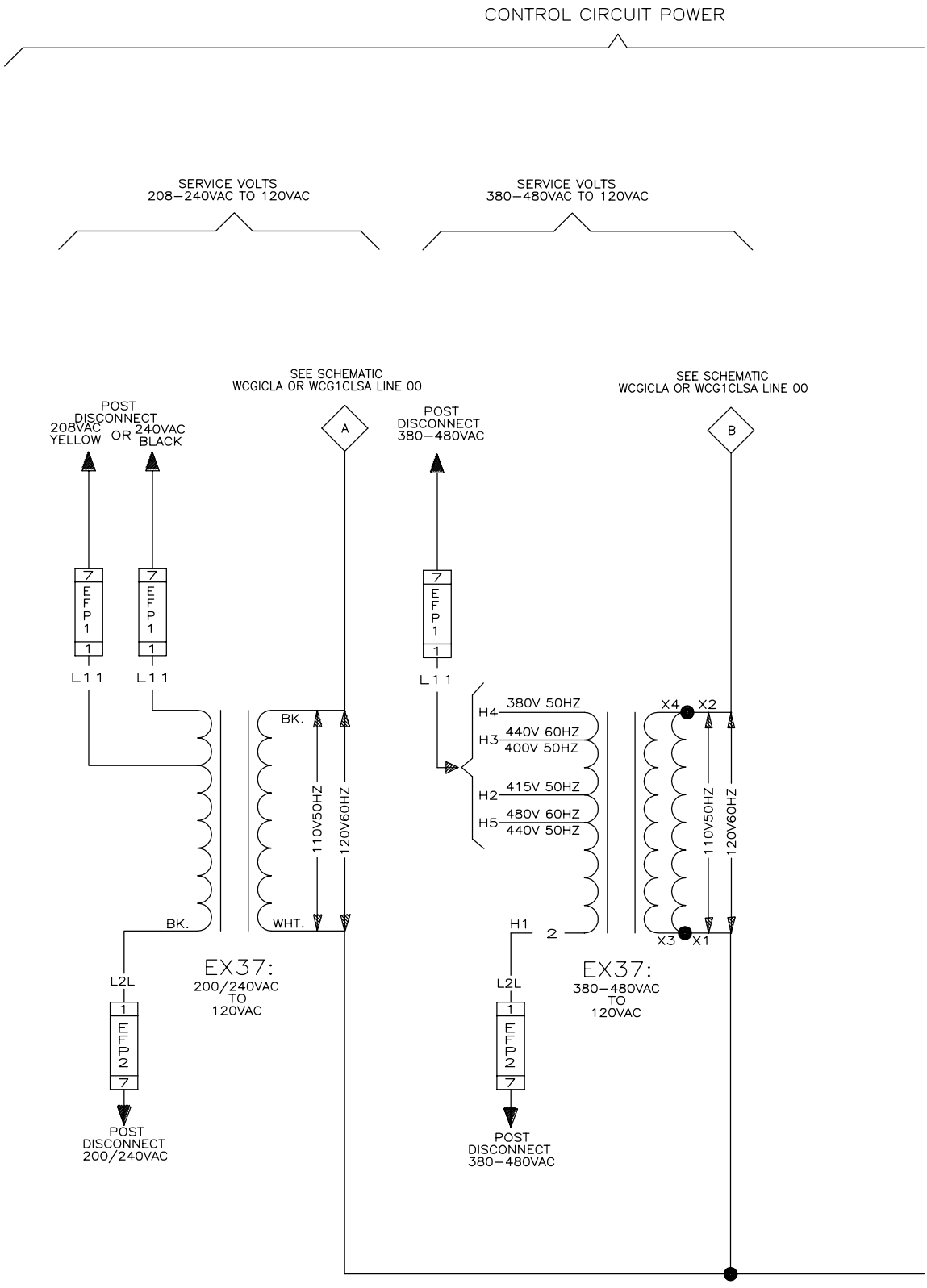


00 01 02 03 04 05 06 07 08 09

WCG1CLSG
89086B

WCG1CLSG
COELD + COELDS
SCHEMATIC DATA READ FOR COELDS

PELLERIN MILNOR CORPORATION



WCG1CLSF
2011464B

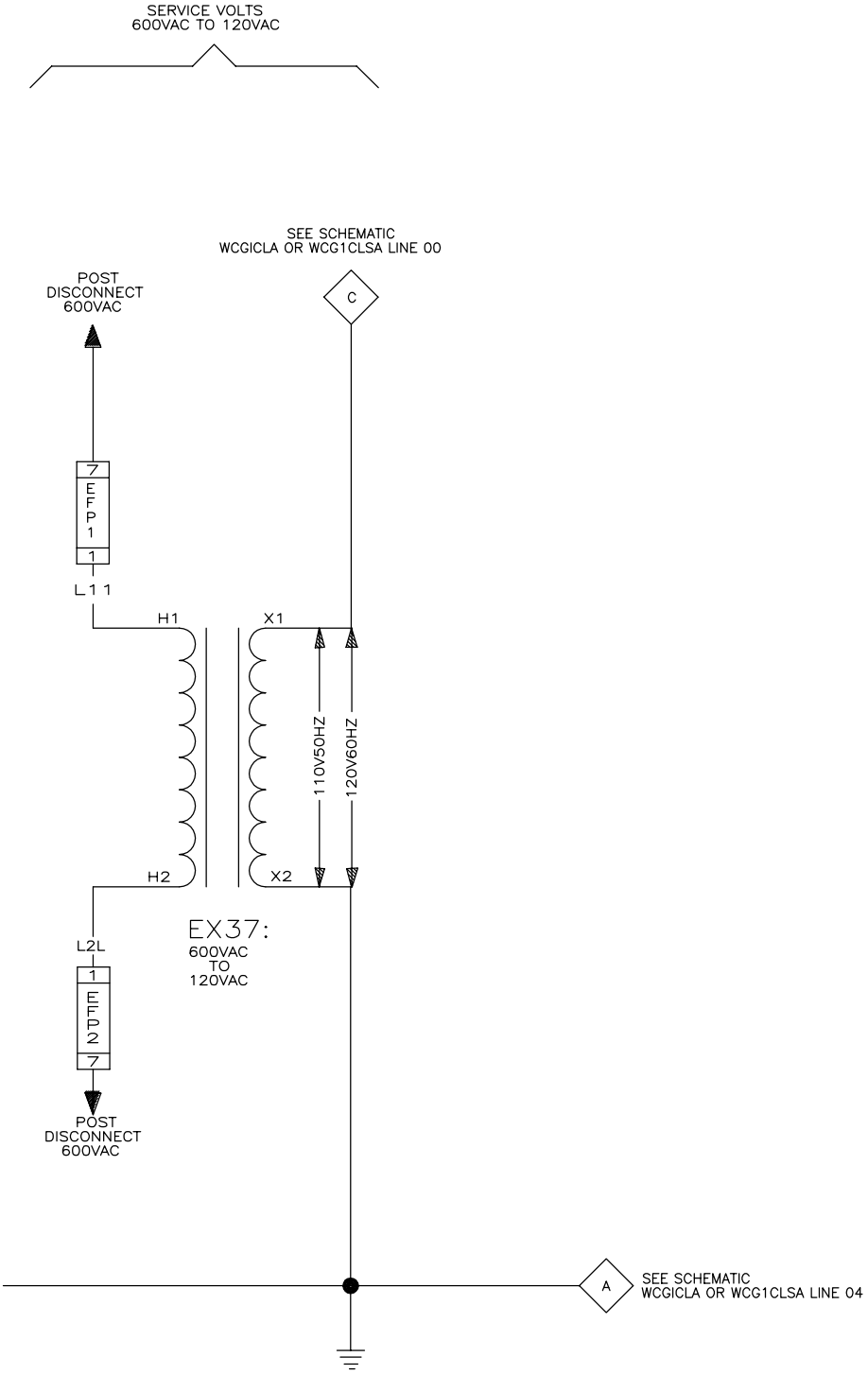
WCG1CLSF

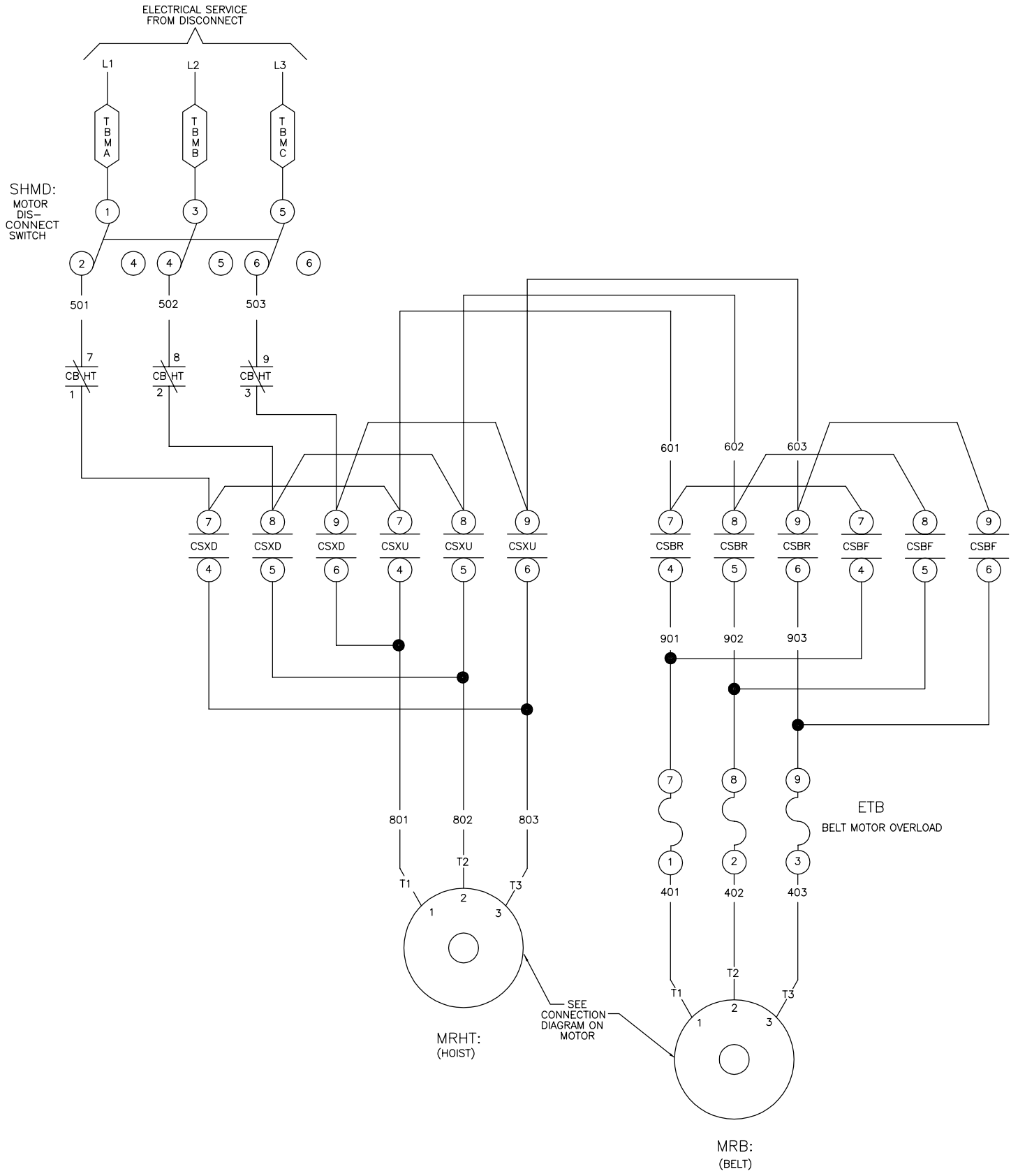
COELD + COELDS

SCHEMATIC: SOURCE TO 110V50HZ/120V60HZ

CONTROL CIRCUIT POWER

PELLERIN MILNOR CORPORATION





00 01 02 03 04 05 06 07 08 09 10

WCG1CLSE
2008403B

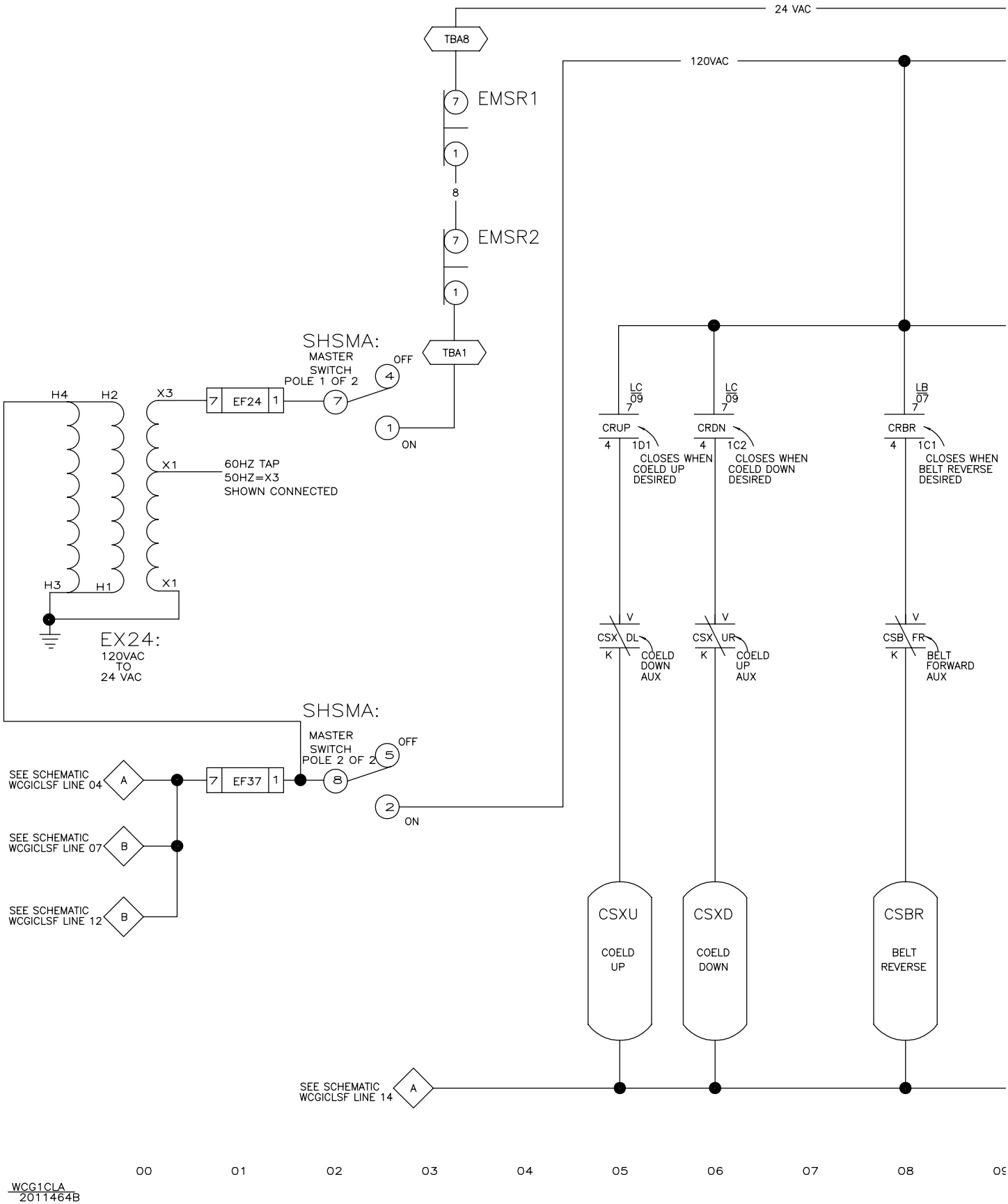
WCG1CLSE

COELD AND COELD S

SCHEMATIC: MOTORS + INCOMING VOLTAGE

PELLERIN MILNOR CORPORATION

11 12 13 14 15 16 17 18 19



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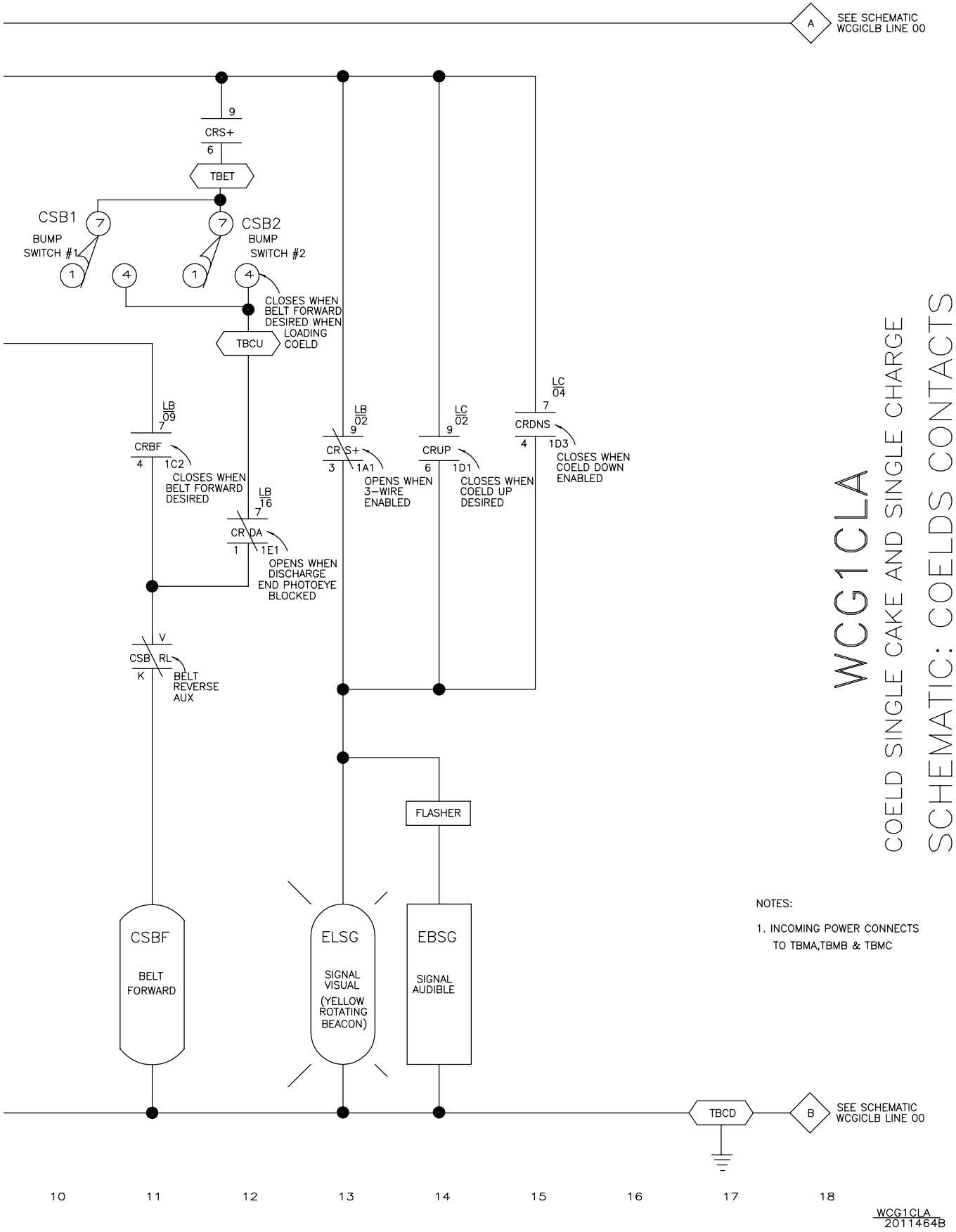


WCG1CLA

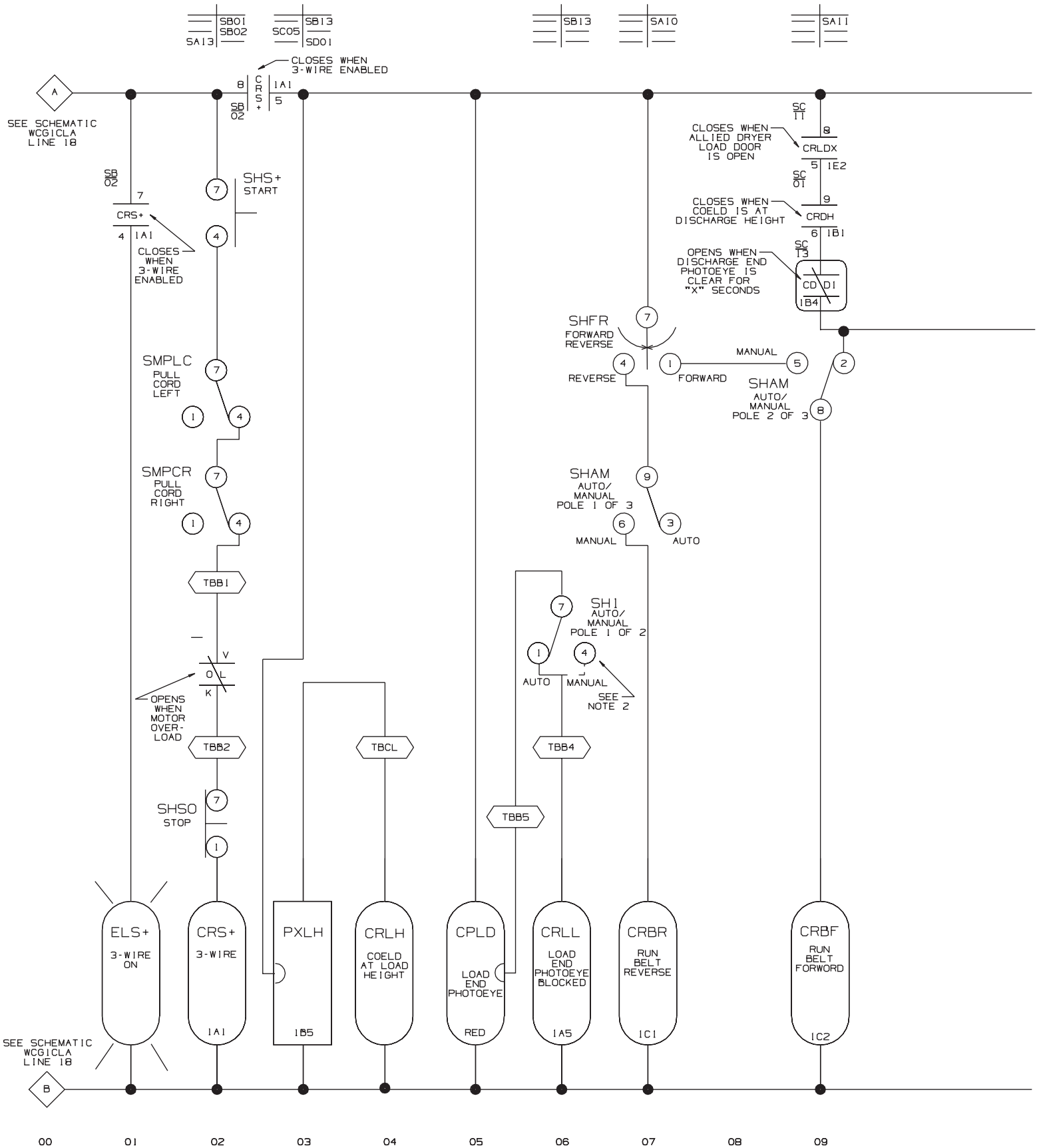
COELD SINGLE CAKE AND SINGLE CHARGE

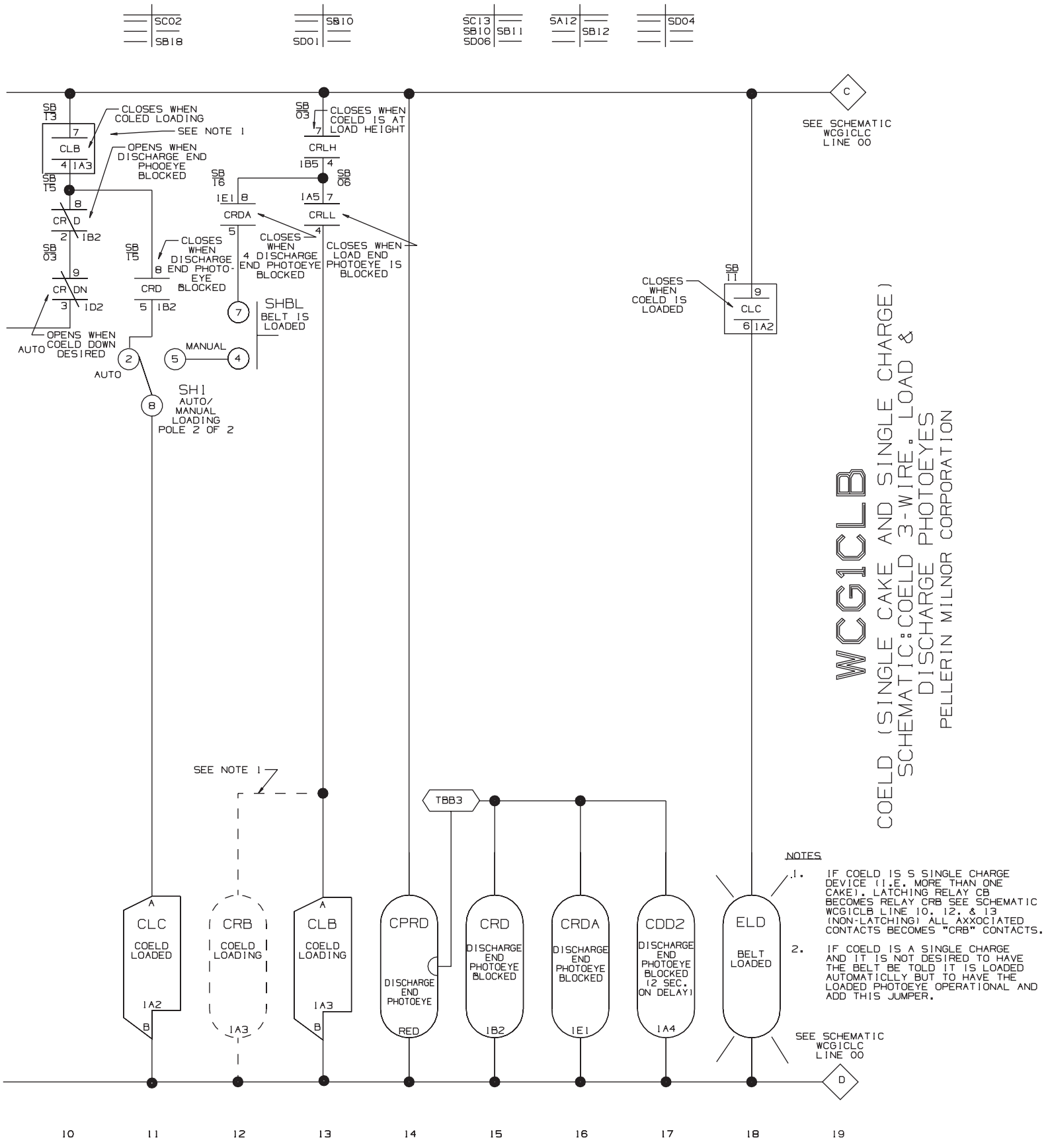
SCHEMATIC: COELDS CONTACTS

PELLERIN MILNOR CORPORATION

NOTES:

1. INCOMING POWER CONNECTS TO TBMA,TBMB & TBMC


SB01
SB02
SA13
SC05
SB13
SD01
SB13
SA10
SA11
CLOSES WHEN
3-WIRE ENABLED
A
SEE SCHEMATIC
WCG1CLA
LINE 18
SB
02
8
CRS+
1A1
5
SC
11
CLOSES WHEN
ALLIED DRYER
LOAD DOOR
IS OPEN
8
CRLDX
5
1E2
SC
01
CLOSES WHEN
COELD IS AT
DISCHARGE HEIGHT
9
CRDH
6
1B1
SC
13
OPENS WHEN
DISCHARGE END
PHOTOEYE IS
CLEAR FOR
"X" SECONDS
CD
D1
1B4
SB
02
7
CRS+
4
1A1
CLOSES
WHEN
3-WIRE
ENABLED
SHS+
START
SHFR
FORWARD
REVERSE
MANUAL
REVERSE
FORWARD
SHAM
AUTO/
MANUAL
POLE 2 OF 3
SMPLC
PULL
CORD
LEFT
SMPCR
PULL
CORD
RIGHT
SHAM
AUTO/
MANUAL
POLE 1 OF 3
MANUAL
AUTO
TBB1
V
O L
K
OPENS
WHEN
MOTOR
OVER-
LOAD
SH1
AUTO/
MANUAL
POLE 1 OF 2
AUTO
MANUAL
SEE
NOTE 2
TBB2
TBCL
TBB4
SHSO
STOP
TBB5
ELS+
3-WIRE
ON
CRS+
3-WIRE
1A1
PXLH
1B5
CRLH
COELD
AT LOAD
HEIGHT
CPLD
LOAD
END
PHOTOEYE
RED
CRLL
LOAD
END
PHOTOEYE
BLOCKED
1A5
CRBR
RUN
BELT
REVERSE
1C1
CRBF
RUN
BELT
FORWORD
1C2
SEE SCHEMATIC
WCG1CLA
LINE 18
B
00
01
02
03
04
05
06
07
08
09



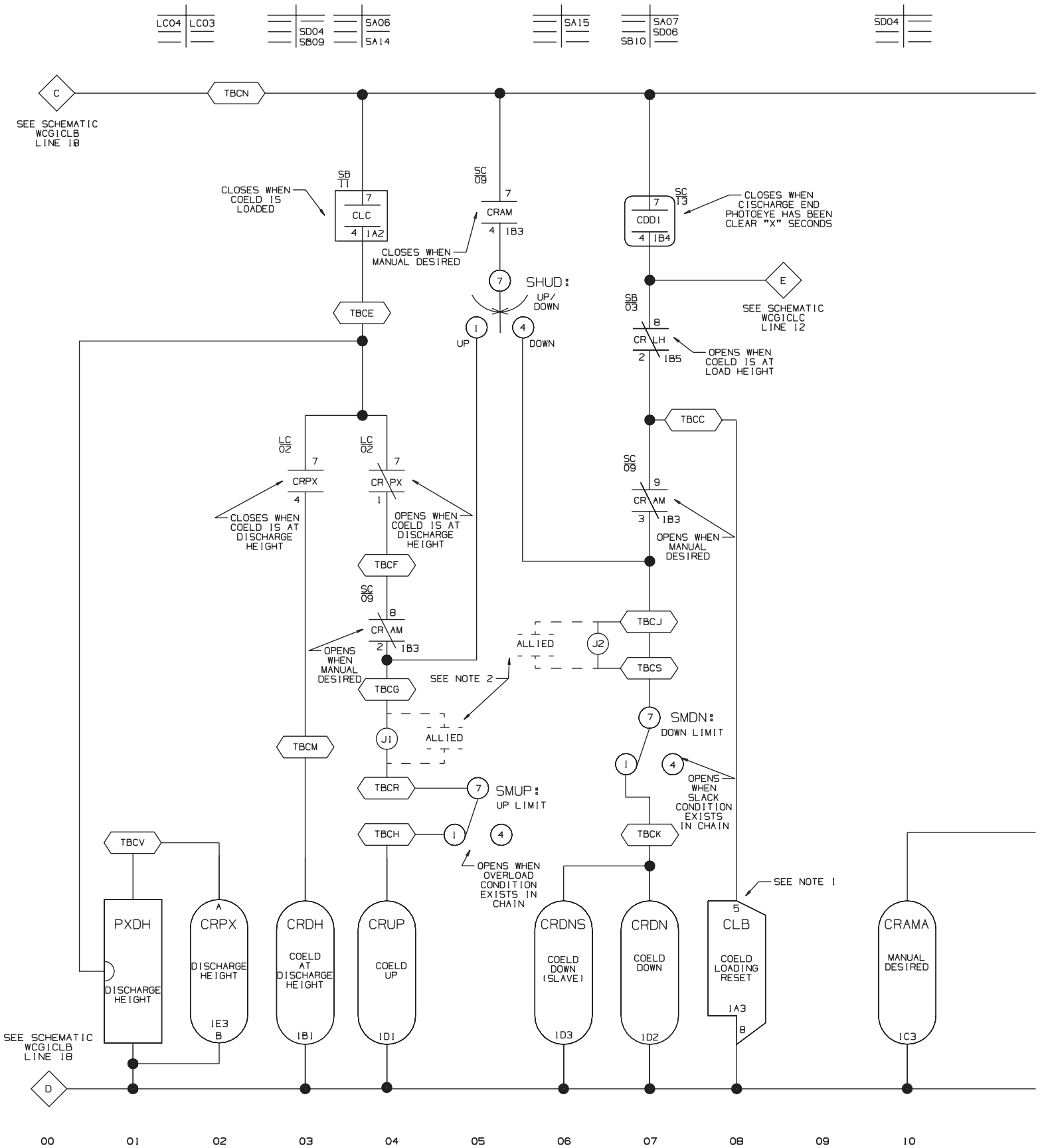
WCG1CLB

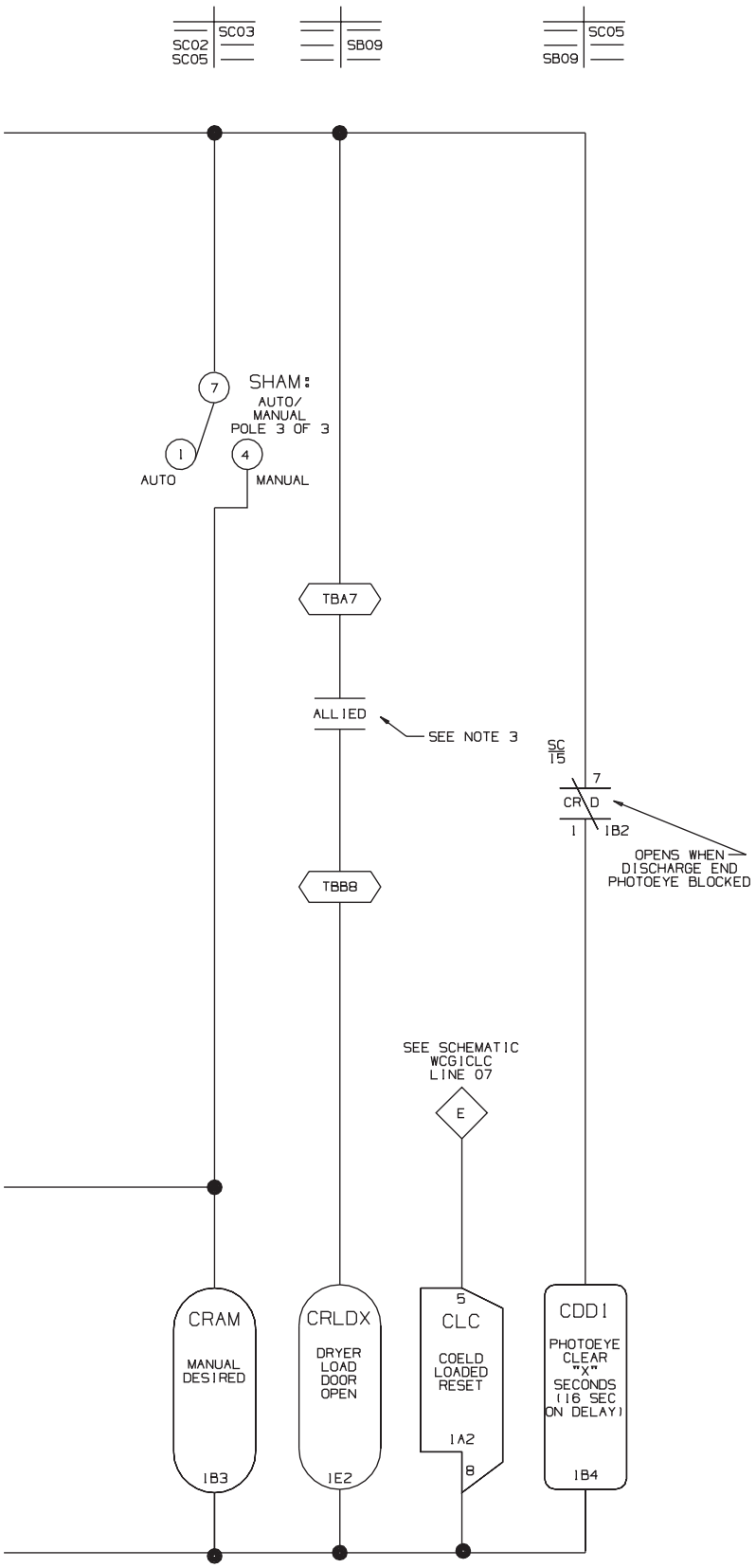
COELD (SINGLE CAKE AND SINGLE CHARGE)
SCHEMATIC: COELD 3-WIRE, LOAD & DISCHARGE PHOTOEYES

PELLERIN MILNOR CORPORATION

NOTES

1. IF COELD IS S SINGLE CHARGE DEVICE (I.E. MORE THAN ONE CAKE), LATCHING RELAY CB BECOMES RELAY CRB SEE SCHEMATIC WCG1CLB LINE 10, 12, & 13 (NON-LATCHING) ALL AXXOCIATED CONTACTS BECOMES "CRB" CONTACTS.
2. IF COELD IS A SINGLE CHARGE AND IT IS NOT DESIRED TO HAVE THE BELT BE TOLD IT IS LOADED AUTOMATICLLY BUT TO HAVE THE LOADED PHOTOEYE OPERATIONAL AND ADD THIS JUMPER.


LC04 LC03
SD04 SB09 SA06 SA14
SA15
SA07 SD06 SB10
SD04
C
TBCN
SEE SCHEMATIC WCGICLB LINE 18
SB 11
CLOSES WHEN COELD IS LOADED
CLC
4 1A2
SC 09
CRAM
4 1B3
CLOSES WHEN MANUAL DESIRED
SC 13
CDD1
4 1B4
CLOSES WHEN CISCHARGE END PHOTOEYE HAS BEEN CLEAR "X" SECONDS
SHUD: UP/DOWN
UP
DOWN
E
SEE SCHEMATIC WCGICLC LINE 12
SB 03
CR LH
2 1B5
OPENS WHEN COELD IS AT LOAD HEIGHT
TBCE
TBCC
LC 02
CRPX
CLOSES WHEN COELD IS AT DISCHARGE HEIGHT
CR PX
OPENS WHEN COELD IS AT DISCHARGE HEIGHT
SC 09
CR AM
3 1B3
OPENS WHEN MANUAL DESIRED
TBCF
SC 09
CR AM
2 1B3
OPENS WHEN MANUAL DESIRED
TBCJ
ALLIED
J2
TBCS
SEE NOTE 2
TBCG
TBCM
J1
ALLIED
SMDN: DOWN LIMIT
OPENS WHEN SLACK CONDITION EXISTS IN CHAIN
TBCR
SMUP: UP LIMIT
TBCH
TBCK
OPENS WHEN OVERLOAD CONDITION EXISTS IN CHAIN
SEE NOTE 1
TBCV
PXDH
DISCHARGE HEIGHT
CRPX
DISCHARGE HEIGHT
1E3 B
CRDH
COELD AT DISCHARGE HEIGHT
1B1
CRUP
COELD UP
1D1
CRDNS
COELD DOWN (SLAVE)
1D3
CRDN
COELD DOWN
1D2
CLB
COELD LOADING RESET
1A3 8
CRAMA
MANUAL DESIRED
1C3
SEE SCHEMATIC WCGICLB LINE 18
D
00 01 02 03 04 05 06 07 08 09 10



WCG1CLC

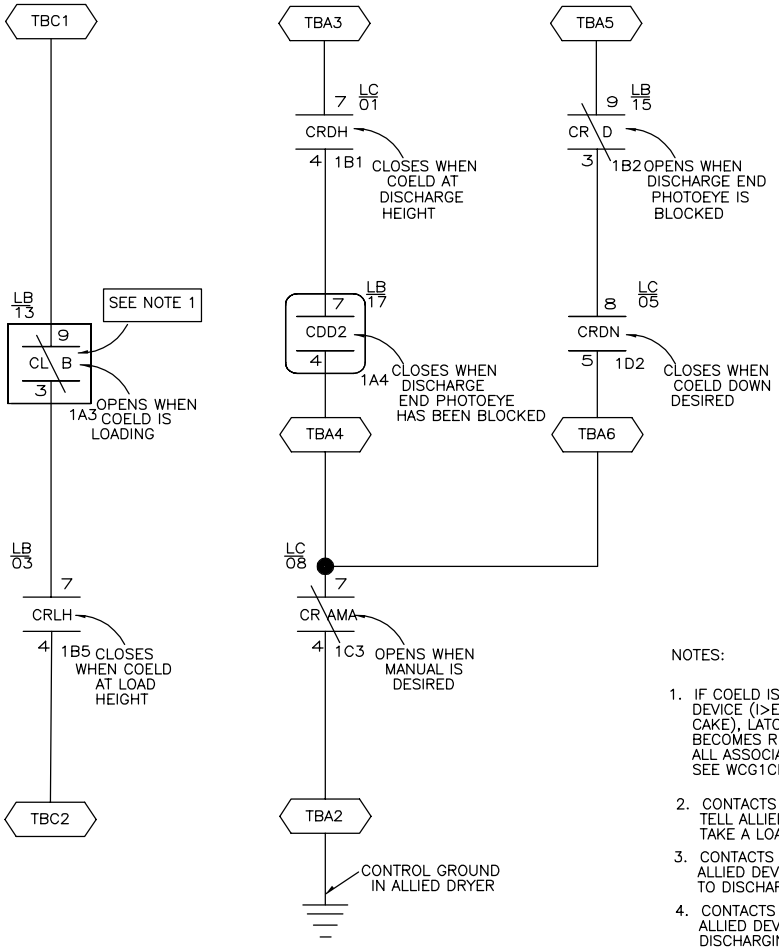
COELD (SINGLE CAKE AND SINGLE CHARGE)
SCHEMATIC:COELD 3-WIRE, LOAD & DISCHARGE PHOTOEYES
PELLERIN MILNOR CORPORATION

NOTES:

1. IF COELD IS A SINGLE CHARGE DEVICE (I>E. MORE THAN ON CAKE), LATCHING RELAY CLB BECOMES RELAY CRB (NON-LATCHING) ALL ASSOCIATED CONTACTS SEE WCGICLC LINE 06

2. REMOVE JUMPER J1 (LINE 02) AND J2 (LINE 04) WHEN LOADING AUTOMATICALLY WIRE ALLIED CONTACTS FROM LOADING DEVICE TO SAY THAT IT HAS O.K. TO DO UP OR DOWN.

3. A N.O. "DRY" CONTINUOUS CONTACT RATE D 5 AMPS, 125 VOLTS, MUST BE SUPPLIED BY ALLIED DEVICE TO TELL COELD IT CAM UNLOAD (TBA7-1BB8) SEE WCGICLC LINE 11



NOTES:

1. IF COELD IS A SINGLE CHARGE DEVICE (I>E. MORE THAN ON CAKE), LATCHING RELAY CLB BECOMES RELAY CRB (NON–LATCHING) ALL ASSOCIATED CONTACTS SEE WCG1CLD LINE 01
2. CONTACTS BETWEEN TBC1 AND TBC2 TELL ALLIED BEVICE HAT COELD CAN TAKE A LOAD.
3. CONTACTS FROM TBA3 TO TBA4 TELL ALLIED DEVICE COELD IT IS READY TO DISCHARGE.
4. CONTACTS FROM TBA5 TO TBA6 TELL ALLIED DEVICE COELD HAS FINISHED DISCHARGING.

SYSTEM OPERATION

COELD SINGLE CAKE

1. COELD CAN BE OPERATED TO LOAD EITHER MANUALLY OR AUTOMATICALLY

A. MANUAL LOADING OPERATION.
1. PLACE SWITCH SH1 TO "MANUAL LOADING" POSITION
2. COELD AT LOAD HEIGHT
3. BUMP THE GOODS WITH BUMP SWITCHES SMB1 OR SMB2 UNTIL THE DICHARGE END PHOTOEYE IS BLOCKED.
4. ENTER THE DRY CODE DATA.
5. PUSH THE "BELT IS LOADED" SWITCH SHBL.
6. COELD WILL AUTOMATICALLY LIFT TO THE DISCHARGE HEIGHT.
7. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELD WILL DISCHARGE AND RUN BELT CLEAR TIME.
8. COELD WILL RETURN TO LOAD POSITION.

B. AUTOMATIC LOADING OPERATION.
1. PLACE SWITCH SH1 TO "AUTOMATIC LOADING" POSITION
2. COELD AT LOAD HEIGHT
3. WHEN THE GOODS BLOCK THE LOAD END PHOTOEYE, THE BELT WILL RUN FORWARD UNTIL THE DISCHARGE END PHOTOEYE IS BLOCKED
4. COELD WILL AUTOMATICALLY BE TOLD IT IS LOADED WHEN THE DISCHARGE END PHOTOEYE IS BLOCKED AND WILL MOVE UP TO DISCHARGE HEIGHT.
5. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELD WILL DISCHARGE AND R BELT CLEAR TIME.
6. COELD WILL RETURN TO LOAD POSITION.

COELD SINGLE CHARGE

1. COELD CAN BE OPERATED TO LOAD EITHER MANUALLY OR AUTOMATICALLY

A. MANUAL LOADING OPERATION.
1. PLACE SWITCH SH1 TO "MANUAL LOADING" POSITION
2. COELD AT LOAD HEIGHT
3. BELT WILL MOVE FORWARD ANYTIME LOAD END PHOTOEYE IS BLOCKED WILL STOP AS SOON AS LOAD END PHOTOEYE IS CLEAR.
4. BELT WILL NOT RUN WHEN DISCHARGE END PHOTOEYE IS BLOCKED.
5. ENTER THE DRY CODE DATA.
6. GOODS MUST BLOCK DISCHARGE END PHOTOEYE BEFORE "BELT IS LOADED". SWITCH SHBL CAN BE ENABLED.
7. COELD WILL AUTOMATICALLY LIFT TO THE DISCHARGE HEIGHT.
8. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELD WILL DISCHARGE AND RUN BELT CLEAR TIME.
9. COELD WILL RETURN TO LOAD POSITION.

B. AUTOMATIC LOADING OPERATION.
1. PLACE SWITCH SH1 TO "AUTOMATIC LOADING" POSITION
2. COELD AT LOAD HEIGHT
3. WHEN THE GOODS BLOCK THE LOAD END PHOTOEYE, THE BELT WILL RUN FORWARD UNTIL THE DISCHARGE END PHOTOEYE IS CLEAR.
4. BELT WILL NOT RUN WHEN DISCHARGE PHOOEYE IS BLOCKED.
5. COELD WILL AUTOMATICALLY BE TOLD IT IS LOADED WHEN THE DISCHARGE END PHOTOEYE IS BLOCKED AND WILL MOVE UP TO DISCHARGE HEIGHT
6. COELD WILL AUTOMATICALLY LIFT TO THE DISCHARGE HEIGHT.
7. WHEN ALLIED DIVICE ALLOWS TO BE LOADED, COELD WILL DISCHARGE AND RUN BELT CLEAR TIME.
8. COELD WILL RETURN TO LOAD POSITON.

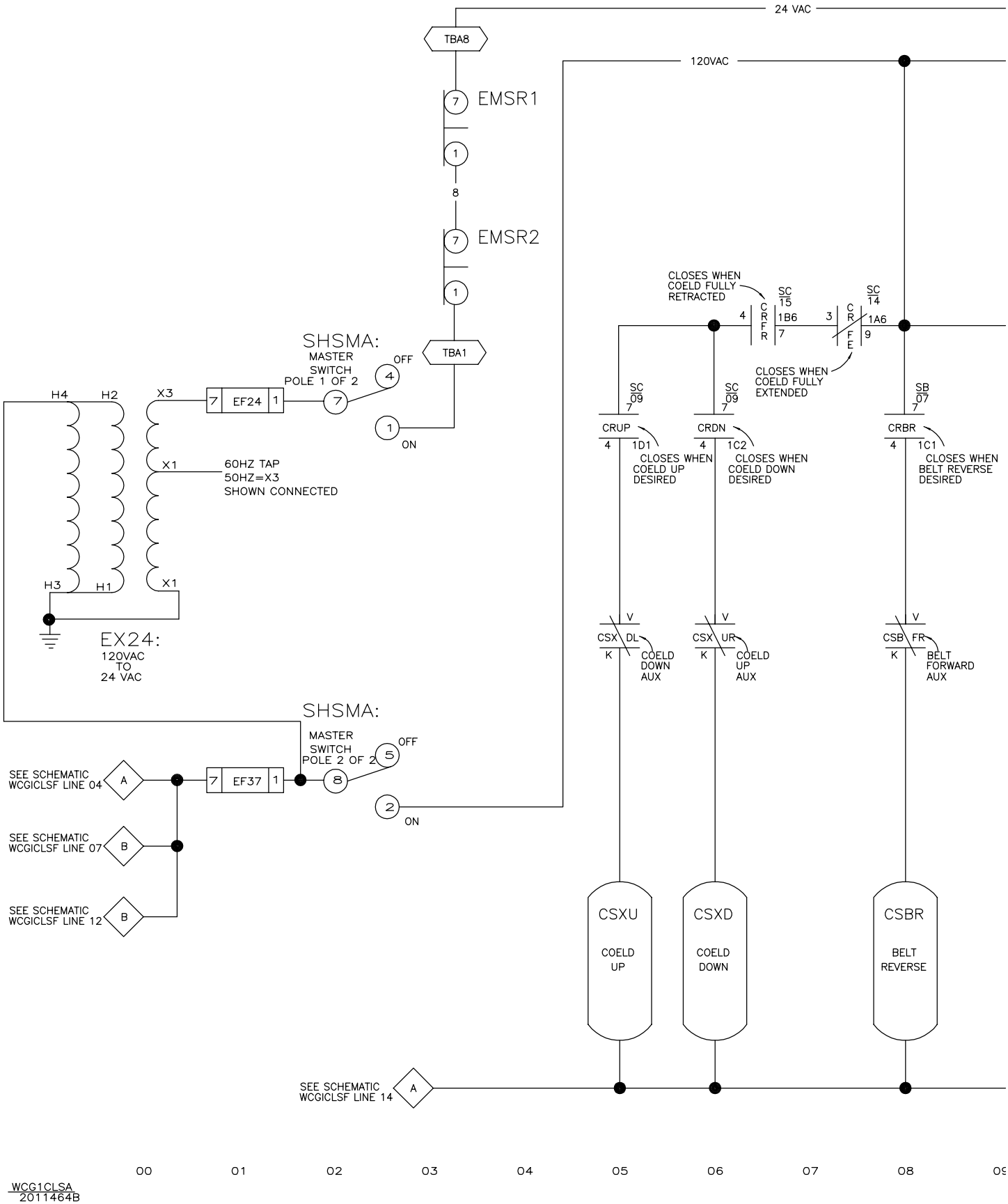
EQUIPMENT DIFINITIONS
1. COELD SINGLE CAKE LOADS ONE CAKE. CONFIGRATION 1–1–1
2. COELD SINGLE CHARGE LOADS MULTIPLE CAKES OR CONTINUOUS GOODS CONFIGURATION 1–X–1

WCG1CLD
89086B

WCG1CLD
COELD (SINGLE CAKE AND SINGLE CHARGE)
SCHEMATIC:ALLIED SIGNALS
PELLERIN MILNOR CORPORATION

WCG1CLD
89086B

11 12 13 14 15 16 17 18 19



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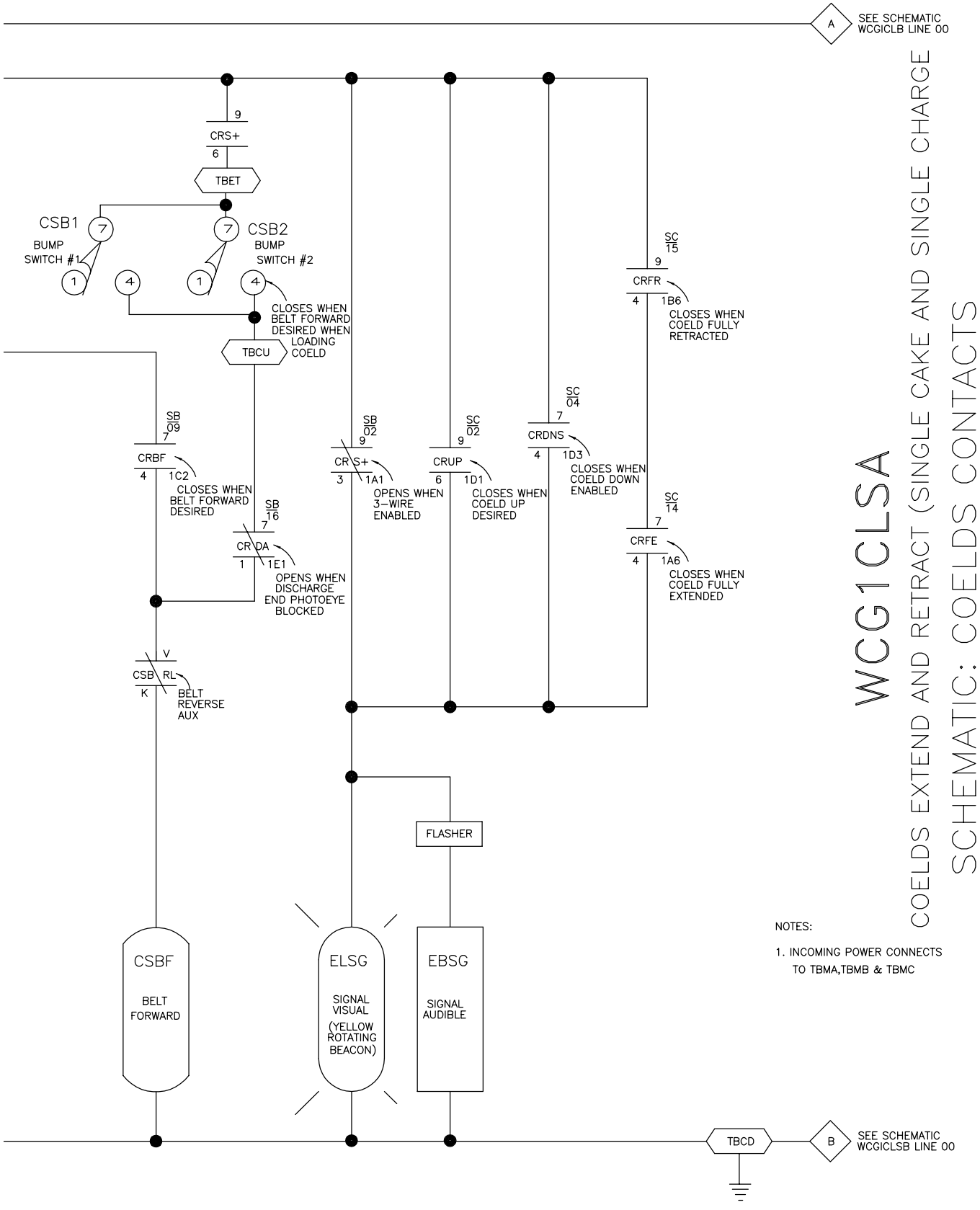


WCG1CLSA

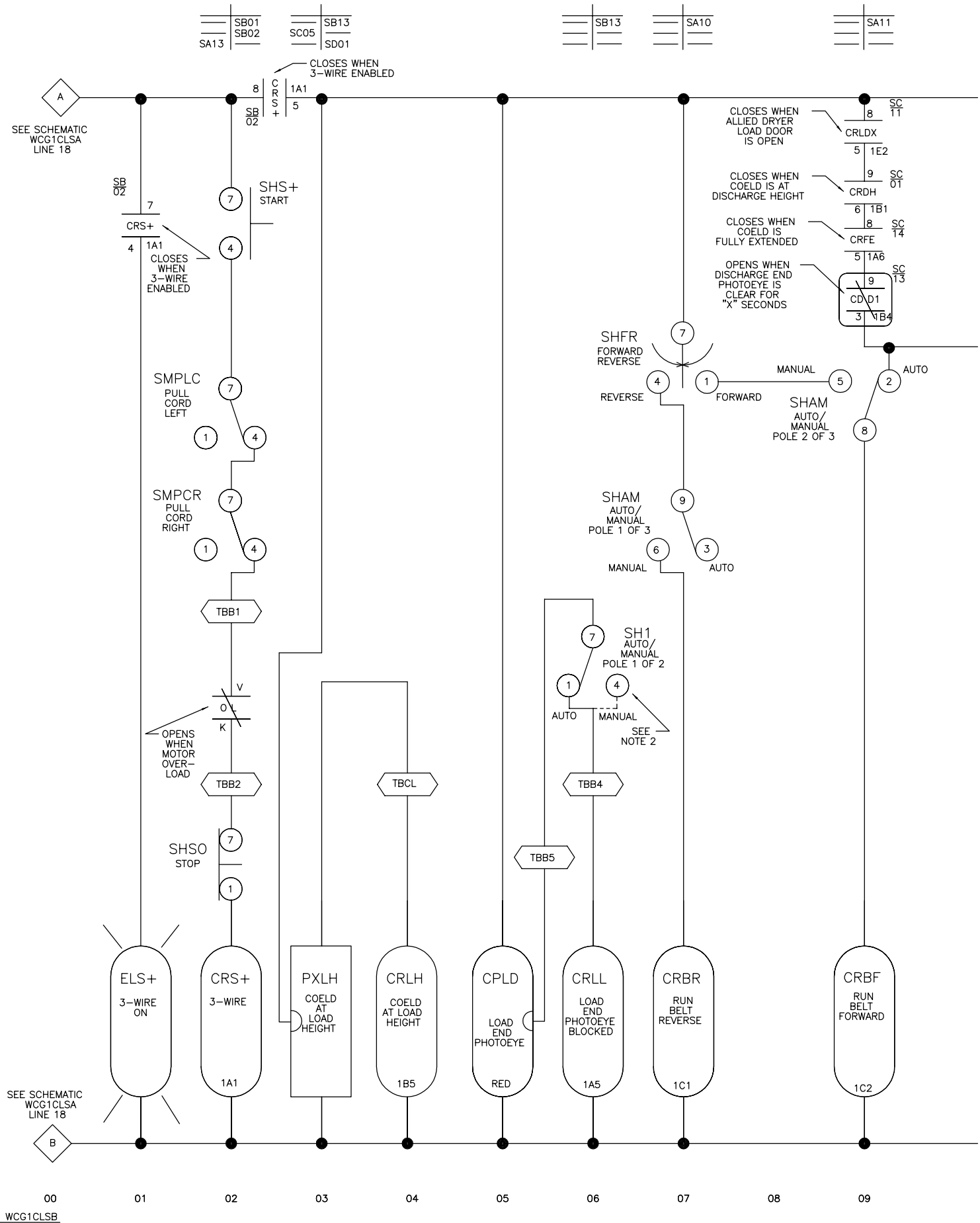
COELDS EXTEND AND RETRACT (SINGLE CAKE AND SINGLE CHARGE

SCHEMATIC: COELDS CONTACTS

PELLERIN MILNOR CORPORATION

NOTES:

1. INCOMING POWER CONNECTS TO TBMA,TBMB & TBMC



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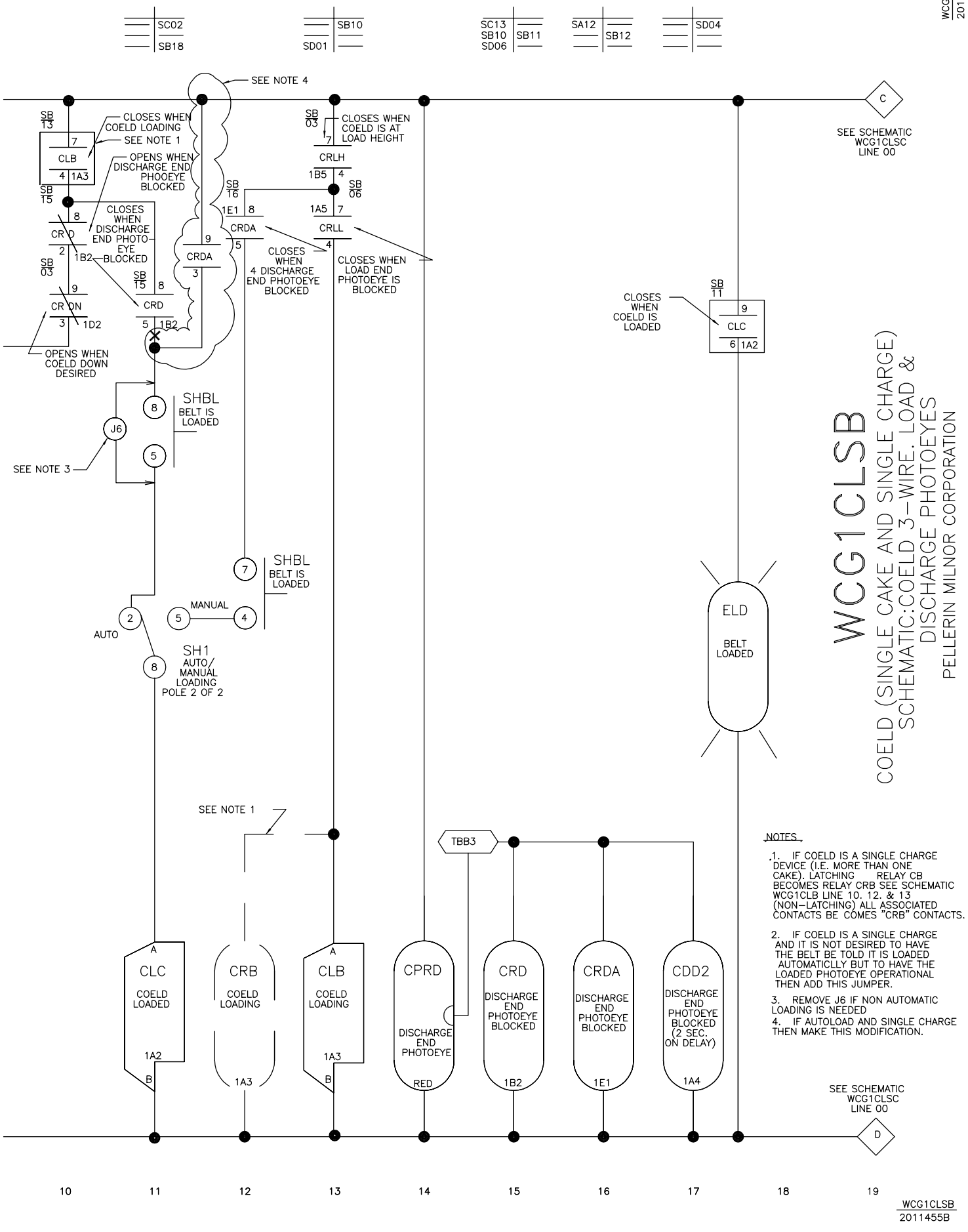


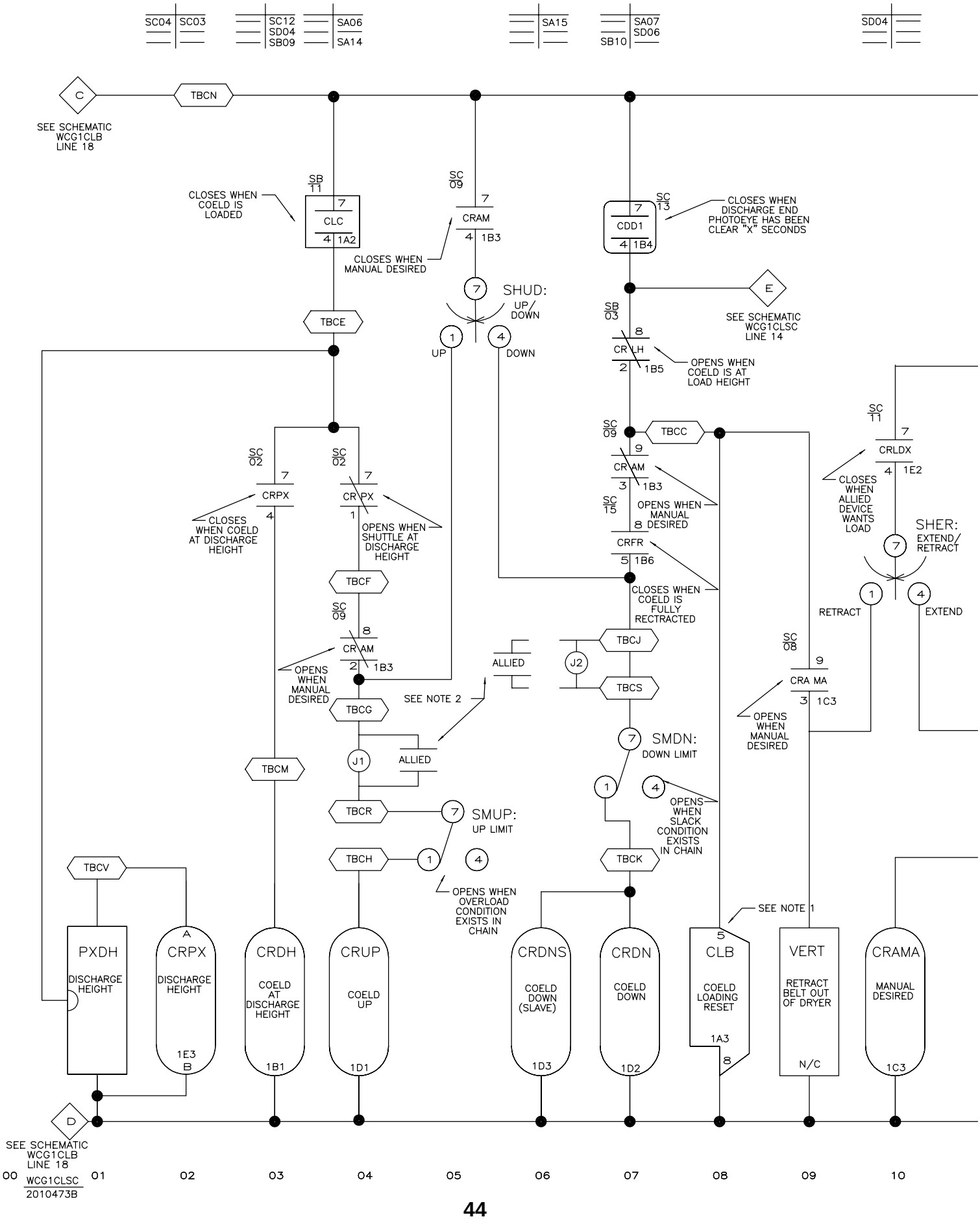
WCG1CLSB

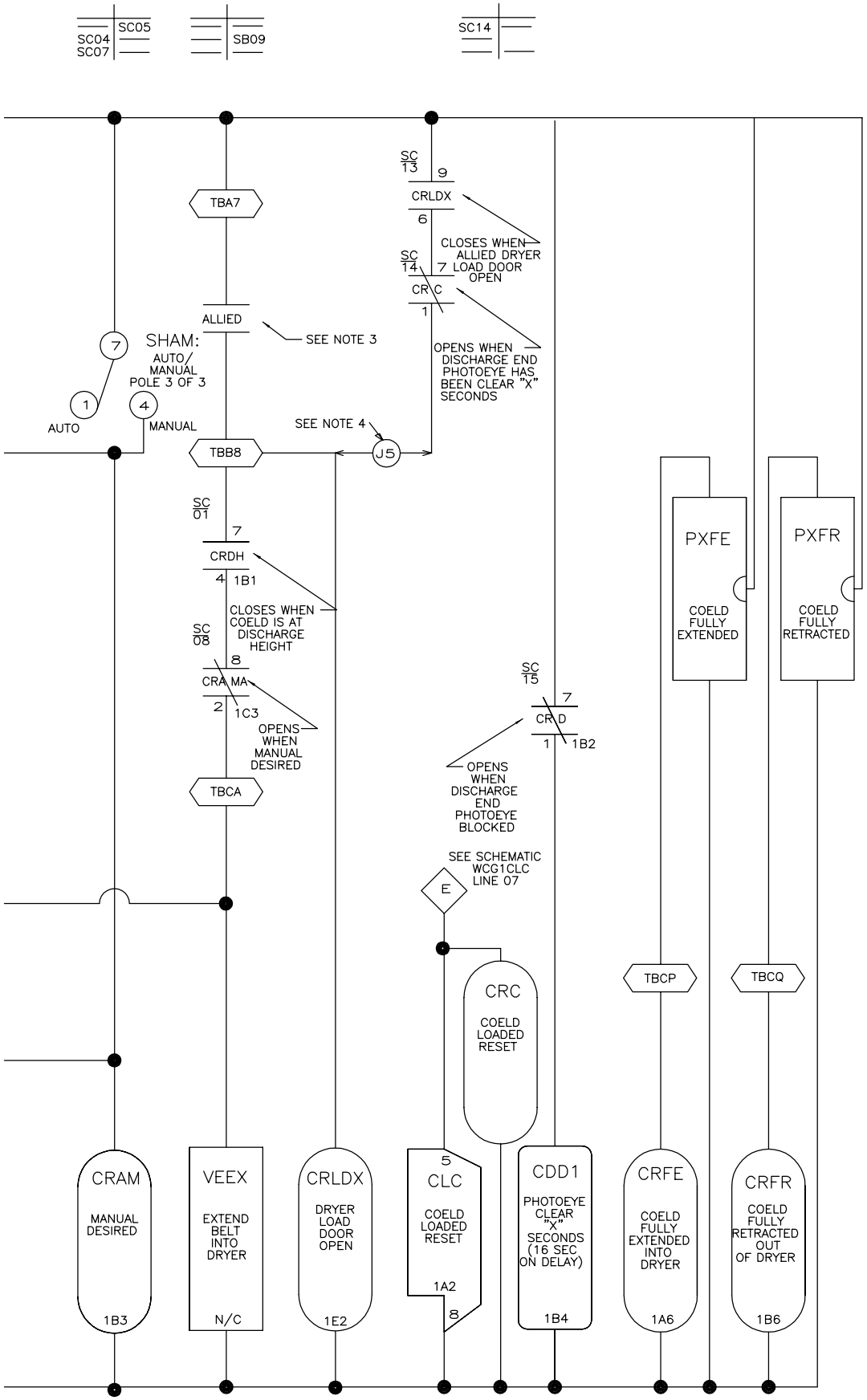
COELD (SINGLE CAKE AND SINGLE CHARGE) SCHEMATIC:COELD 3–WIRE. LOAD & DISCHARGE PHOTOEYES

PELLERIN MILNOR CORPORATION

NOTES

1. IF COELD IS A SINGLE CHARGE DEVICE (I.E. MORE THAN ONE CAKE), LATCHING RELAY CB BECOMES RELAY CRB SEE SCHEMATIC WCG1CLB LINE 10. 12. & 13 (NON–LATCHING) ALL ASSOCIATED CONTACTS BE COMES "CRB" CONTACTS.
2. IF COELD IS A SINGLE CHARGE AND IT IS NOT DESIRED TO HAVE THE BELT BE TOLD IT IS LOADED AUTOMATICLLY BUT TO HAVE THE LOADED PHOTOEYE OPERATIONAL THEN ADD THIS JUMPER.
3. REMOVE J6 IF NON AUTOMATIC LOADING IS NEEDED
4. IF AUTOLOAD AND SINGLE CHARGE THEN MAKE THIS MODIFICATION.


SC04 SC03
SC12 SD04 SB09 SA06 SA14
SA15
SA07 SD06 SB10
SD04
C
TBCN
SEE SCHEMATIC WCG1CLB LINE 18
SB 11
7 CLC 4 1A2
CLOSES WHEN COELD IS LOADED
SC 09
7 CRAM 4 1B3
CLOSES WHEN MANUAL DESIRED
SC 13
7 CDD1 4 1B4
CLOSES WHEN DISCHARGE END PHOTOEYE HAS BEEN CLEAR "X" SECONDS
E
SEE SCHEMATIC WCG1CLSC LINE 14
SHUD: UP/DOWN
7
1 UP
4 DOWN
TBCE
SB 03
8 CR LH 2 1B5
OPENS WHEN COELD IS AT LOAD HEIGHT
SC 09
TBCC
9 CR AM 3 1B3
OPENS WHEN MANUAL DESIRED
SC 15
8 CRFR 5 1B6
CLOSES WHEN COELD IS FULLY RECTRACTED
SC 11
7 CRLDX 4 1E2
CLOSES WHEN ALLIED DEVICE WANTS LOAD
SHER: EXTEND/RETRACT
7
1 RETRACT
4 EXTEND
SC 02
7 CRPX 4
CLOSES WHEN COELD AT DISCHARGE HEIGHT
SC 02
7 CR PX 1
OPENS WHEN SHUTTLE AT DISCHARGE HEIGHT
TBCF
SC 09
8 CR AM 2 1B3
OPENS WHEN MANUAL DESIRED
ALLIED
SEE NOTE 2
TBCG
TBCJ
J2
TBCS
SC 08
9 CRA MA 3 1C3
OPENS WHEN MANUAL DESIRED
TBCM
J1
ALLIED
7 SMDN: DOWN LIMIT
1
4
OPENS WHEN SLACK CONDITION EXISTS IN CHAIN
TBCR
7 SMUP: UP LIMIT
TBCH
1
4
OPENS WHEN OVERLOAD CONDITION EXISTS IN CHAIN
TBCK
TBCV
SEE NOTE 1
PXDH DISCHARGE HEIGHT
A CRPX DISCHARGE HEIGHT 1E3 B
CRDH COELD AT DISCHARGE HEIGHT 1B1
CRUP COELD UP 1D1
CRDNS COELD DOWN (SLAVE) 1D3
CRDN COELD DOWN 1D2
5 CLB COELD LOADING RESET 1A3 8
VERT RETRACT BELT OUT OF DRYER N/C
CRAMA MANUAL DESIRED 1C3
D
SEE SCHEMATIC WCG1CLB LINE 18
00 01 02 03 04 05 06 07 08 09 10
WCG1CLSC
2010473B



WCG1CLSC

COELD (SINGLE CAKE AND SINGLE CHARGE) SCHEMATIC:COELD 3–WIRE. LOAD & DISCHARGE PHOTOEYES

PELLERIN MILNOR CORPORATION

NOTES:

1. IF COELD IS A SINGLE CHARGE DEVICE (I>E. MORE THAN ON CAKE), LATCHING RELAY CLB BECOMES RELAY CRB (NON–LATCHING) ALL ASSOCIATED CONTACTS SEE WCG1CLSC LINE 06
2. REMOVE JUMPER J1 (LINE 02) AND J2 (LINE 04) WHEN LOADING AUTOMATICALLY WIRE ALLIED CONTACTS FROM LOADING DEVICE TO SAY THAT IT HAS O.K. TO DO UP OR DOWN.
3. A N.O. "DRY" CONTINUOUS CONTACT RATE D 5 AMPS, 125 VOLTS, MUST BE SUPPLIED BY ALLIED DEVICE TO TELL COELD IT CAN UNLOAD (TBA7–1BB8) SEE WCG1CLSC LINE 11
4. REMOVE J5 IF NOT LOADING CBW

WCG1CLSC
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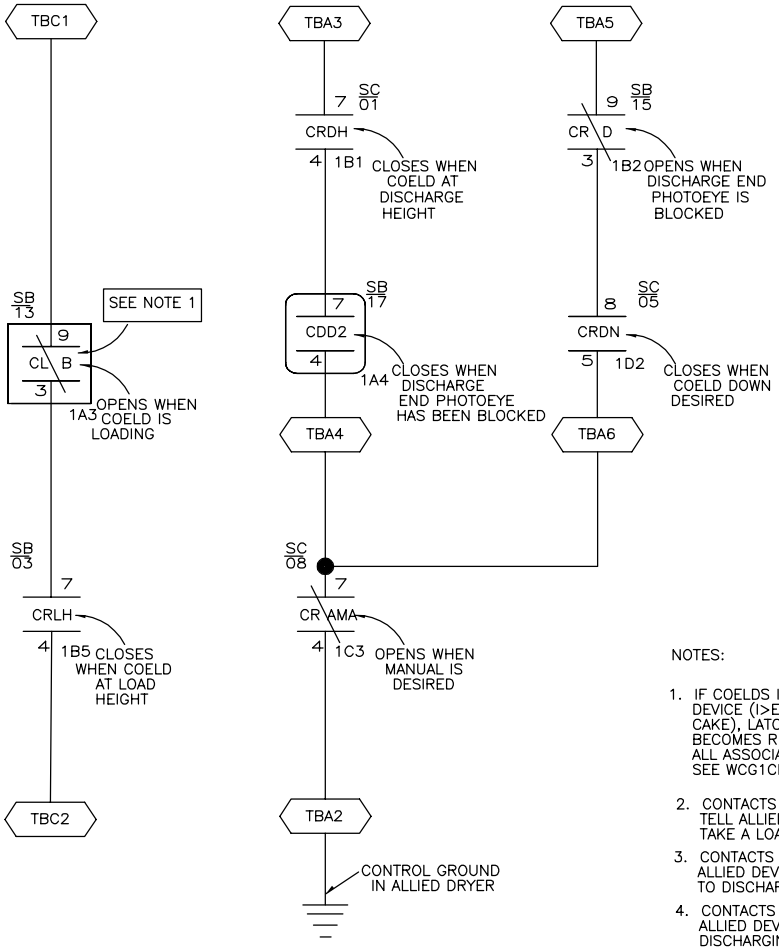


NOTES:

1. IF COELDS IS A SINGLE CHARGE DEVICE (I>E. MORE THAN ON CAKE), LATCHING RELAY CLB BECOMES RELAY CRB (NON–LATCHING) ALL ASSOCIATED CONTACTS SEE WCG1CLSD LINE 01
2. CONTACTS BETWEEN TBC1 AND TBC2 TELL ALLIED BEVICE HAT COELDS CAN TAKE A LOAD.
3. CONTACTS FROM TBA3 TO TBA4 TELL ALLIED DEVICE COELDS IT IS READY TO DISCHARGE.
4. CONTACTS FROM TBA5 TO TBA6 TELL ALLIED DEVICE COELDS HAS FINISHED DISCHARGING.

SYSTEM OPERATION

COELDS SINGLE CAKE

1. COELDS CAN BE OPERATED TO LOAD EITHER MANUALLY OR AUTOMATICALLY
   A. MANUAL LOADING OPERATION.
      1. COELDS IS FULLY RETRACTED
      2. PLACE SWITCH SH1 TO "MANUAL LOADING" POSITION
      3. COELDS AT LOAD HEIGHT
      4. BUMP THE GOODS WITH BUMP SWITCHES SMB1 OR SMB2 UNTIL THE DICHARGE END PHOTOEYE IS BLOCKED.
      5. ENTER THE DRY CODE DATA.
      6. PUSH THE "BELT IS LOADED" SWITCH SHBL.
      7. COELDS WILL AUTOMATICALLY LIFT TO THE DISCHARGE HEIGHT.
      8. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELDS WILL EXTEND AND AND RUN BELT CLEAR TIME.
      9. COELDS WILL RETRACT AND RETURN TO LOAD POSITION.
   B. AUTOMATIC LOADING OPERATION.
      1. COELDS IS FULLY RETRACTED
      2. PLACE SWITCH SH1 TO "AUTOMATIC LOADING" POSITION
      3. COELDS AT LOAD HEIGHT
      4. WHEN THE GOODS BLOCK THE LOAD END PHOTOEYE, THE BELT WILL RUN FORWARD UNTIL THE DISCHARGE END PHOTOEYE IS BLOCKED
      5. COELDS WILL AUTOMATICALLY BE TOLD IT IS LOADED WHEN THE DISCHARGE END PHOTOEYE IS BLOCKED AND WILL MOVE UP TO DISCHARGE HEIGHT.
      6. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELDS WILL EXTEND AND AND RUN BELT CLEAR TIME.
      7. COELDS WILL RETRACT AND RETURN TO LOAD POSITION.

COELDS SINGLE CHARGE

1. COELDS CAN BE OPERATED TO LOAD EITHER MANUALLY OR AUTOMATICALLY
   A. MANUAL LOADING OPERATION.
      1. COELDS IS FULLY RETRACTED
      2. PLACE SWITCH SH1 TO "MANUAL LOADING" POSITION
      3. COELDS AT LOAD HEIGHT
      4. BELT WILL MOVE FORWARD ANYTIME LOAD END PHOTOEYE IS BLOCKED WILL STOP AS SOON AS LOAD END PHOTOEYE IS CLEAR.
      5. BELT WILL NOT RUN WHEN DISCHARGE END PHOTOEYE IS BLOCKED.
      6. ENTER THE DRY CODE DATA.
      7. GOODS MUST BLOCK DISCHARGE END PHOTOEYE BEFORE "BELT IS LOADED". SWITCH SHBL CAN BE ENABLED.
      8. COELDS WILL AUTOMATICALLY LIFT TO THE DISCHARGE HEIGHT.
      9. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELDS WILL EXTEND AND BELT CLEAR TIME.
      10. COELDS WILL RETRACT AND RETURN TO LOAD POSITION.
   B. AUTOMATIC LOADING OPERATION.
      1. COELDS IS FULLY RETRACTED
      2. PLACE SWITCH SH1 TO "AUTOMATIC LOADING" POSITION
      3. COELD AT LOAD HEIGHT
      4. WHEN THE GOODS BLOCK THE LOAD END PHOTOEYE, THE BELT WILL RUN FORWARD UNTIL THE DISCHARGE END PHOTOEYE IS CLEAR.
      5. BELT WILL NOT RUN WHEN DISCHARGE PHOOEYE IS BLOCKED.
      6. COELDS WILL AUTOMATICALLY BE TOLD IT IS LOADED WHEN THE DISCHARGE END PHOTOEYE IS BLOCKED AND WILL MOVE UP TO DISCHARGE HEIGHT
      7. COELDS WILL AUTOMATICALLY LIFT TO THE DISCHARGE HEIGHT.
      8. WHEN ALLIED DEVICE ALLOWS TO BE LOADED, COELDS WILL EXTEND AND RUN BELT CLEAR TIME.
      9. COELDS WILL RETRACT AND RETURN TO LOAD POSITON.

EQUIPMENT DIFINITIONS

1. COELDS SINGLE CAKE LOADS ONE CAKE. CONFIGRATION 1–1–1
2. COELDS SINGLE CHARGE LOADS MULTIPLE CAKES OR CONTINUOUS GOODS CONFIGURATION 1–X–1

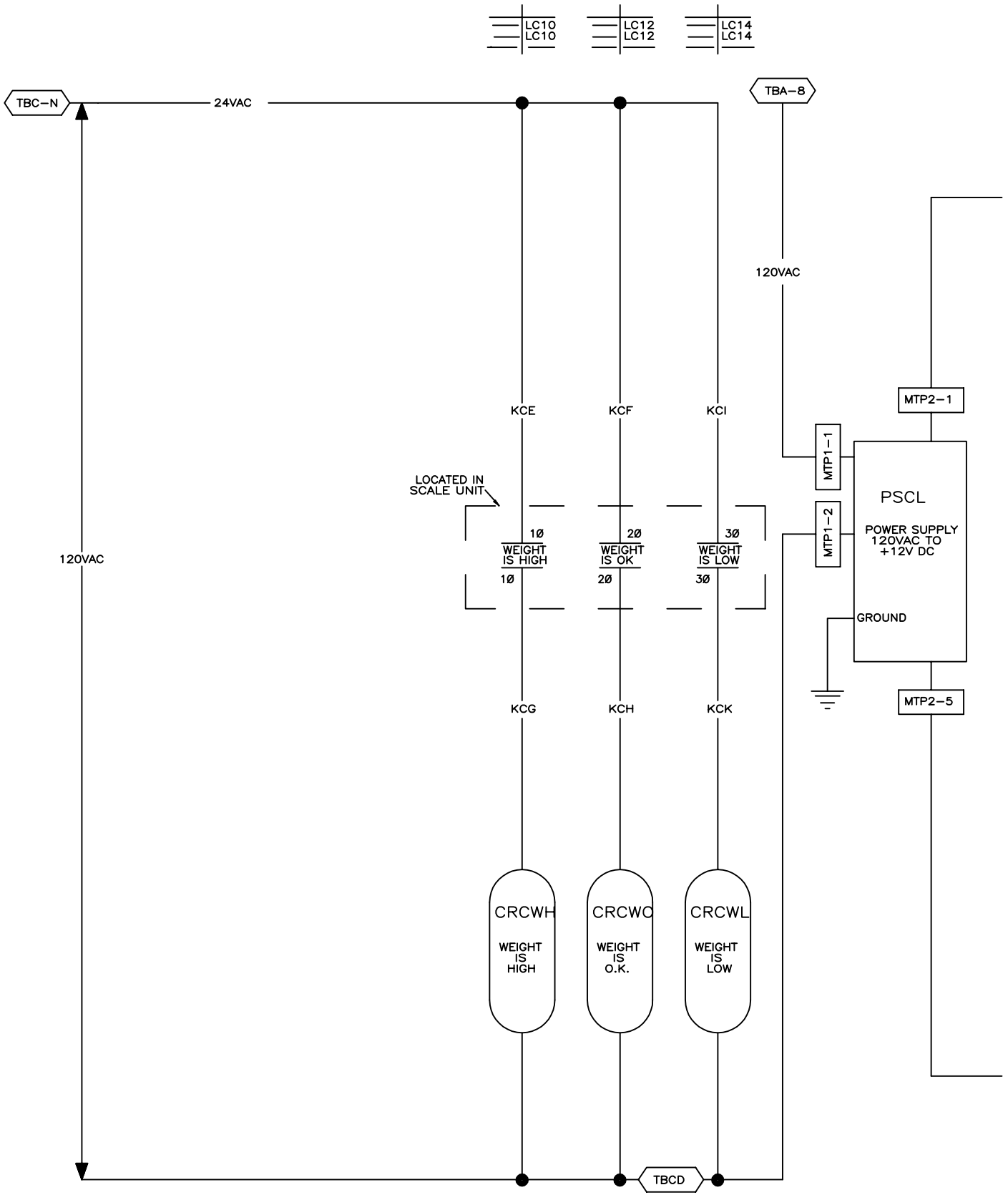
WCG1CLSD
89086B

WCG1CLSD

COELDS (SINGLE CAKE AND SINGLE CHARGE)

SCHEMATIC:ALLIED SIGNALS

PELLERIN MILNOR CORPORATION

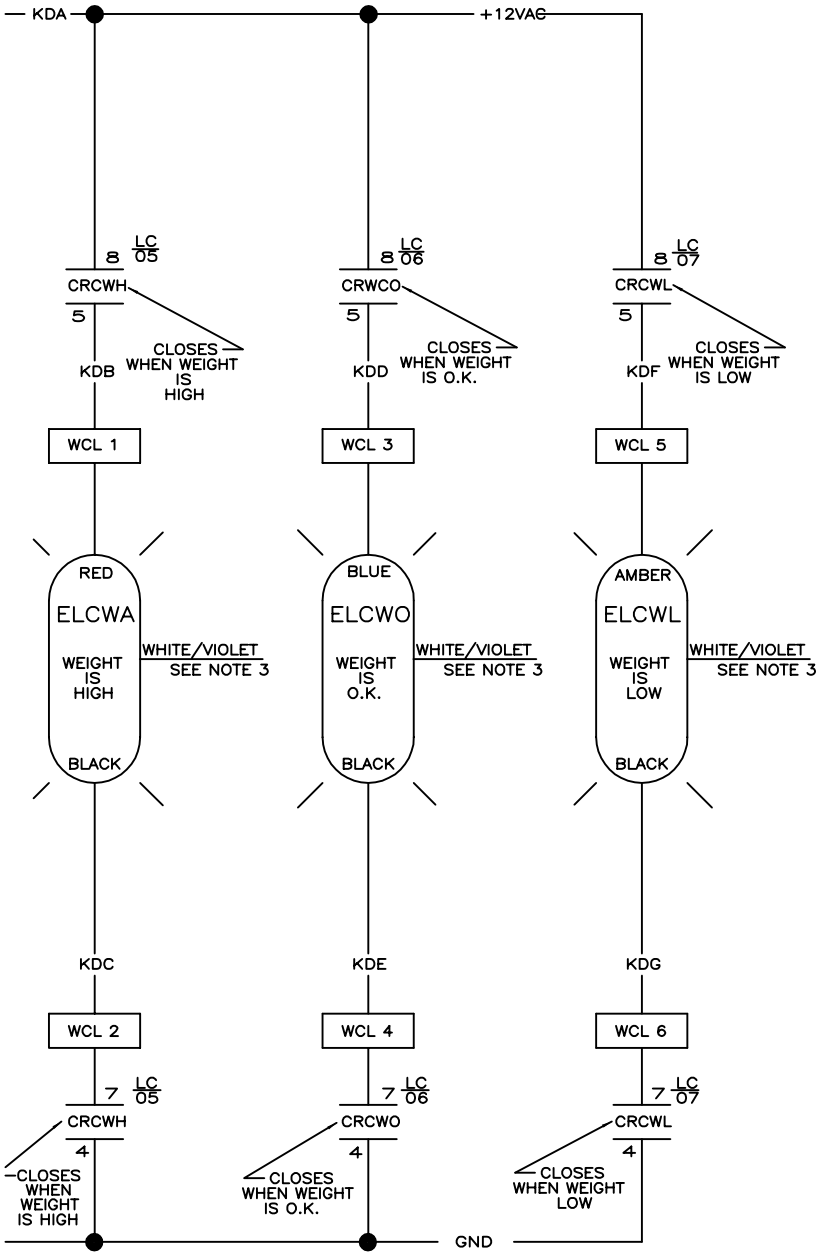


WCGICLSLC
2010473B

WCG1CLSLC

SCHEMATIC: LOADING—COELD LED LIGHTS
OPTIONAL FOR CBW LOADING

PELLERIN MILNOR CORPORATION



NOTES:

1. WCL IS LOCATED IN THE CONLO BOX AND THE LIGHT BOX.
2. THE LED CONTROLLER MUST BE SET TO HAVE THE LED CONTINUOUSLY ON. TO CYCLE THROUGH ALL THE LED PATTERNS. APPLY +12V TO THE WHITE/VIOLET WIRE FOR LESS THAN 1 SECOND AND RELEASE TO CYCLE FORWARD. APPLY AND RELEASE +12V FOR MORE THAN 1 SECOND TO CYCLE BACKWARDS.

   WHEN LIGHT IS CONTINUIOUSLY ON ALLOW IT TO RUN FOR MORE THAN 5 SECONDS TO SET PATTERN.

   TO RESET PATTERN TURN POWER OFF AND APPLY +12V TO THE WHITE/VIOLET WIRE WHILE TURNING POWER BACK ON TO LIGHT.

10 11 12 13 14 15 16 17 18 19